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OIL WEEKLY

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

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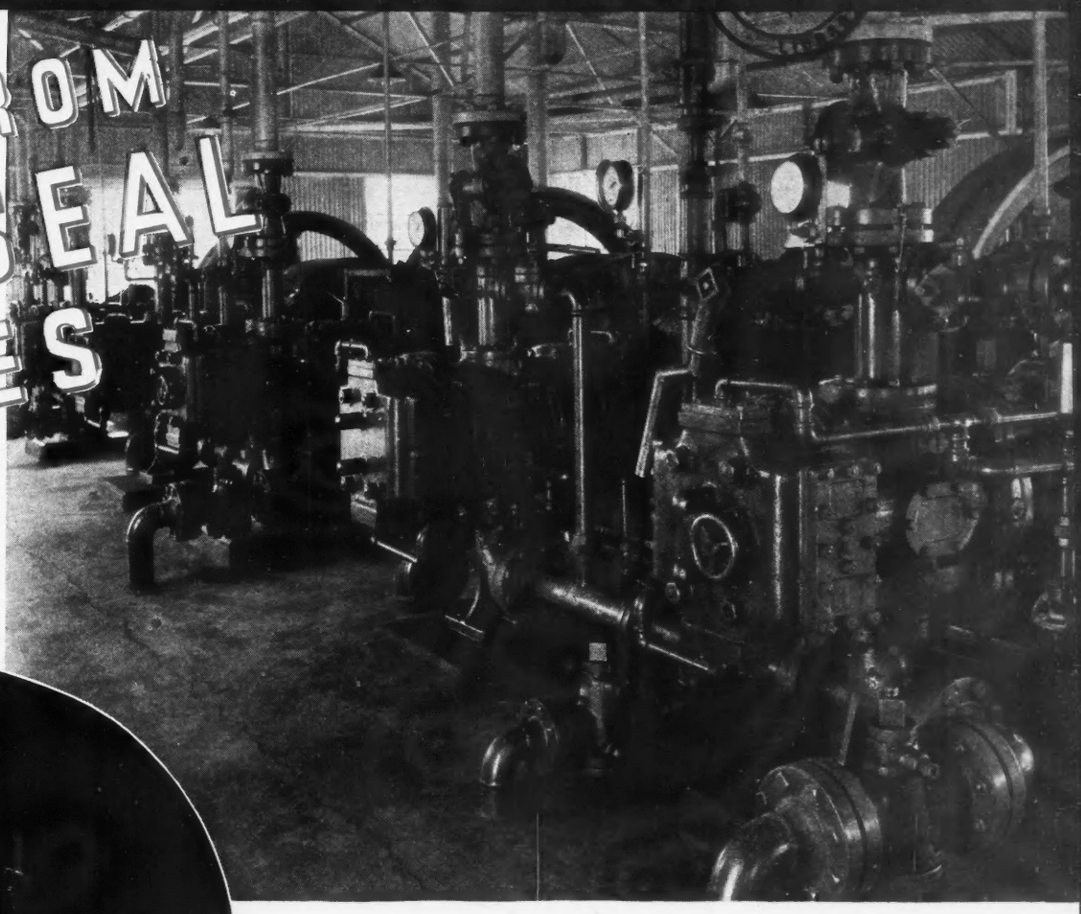

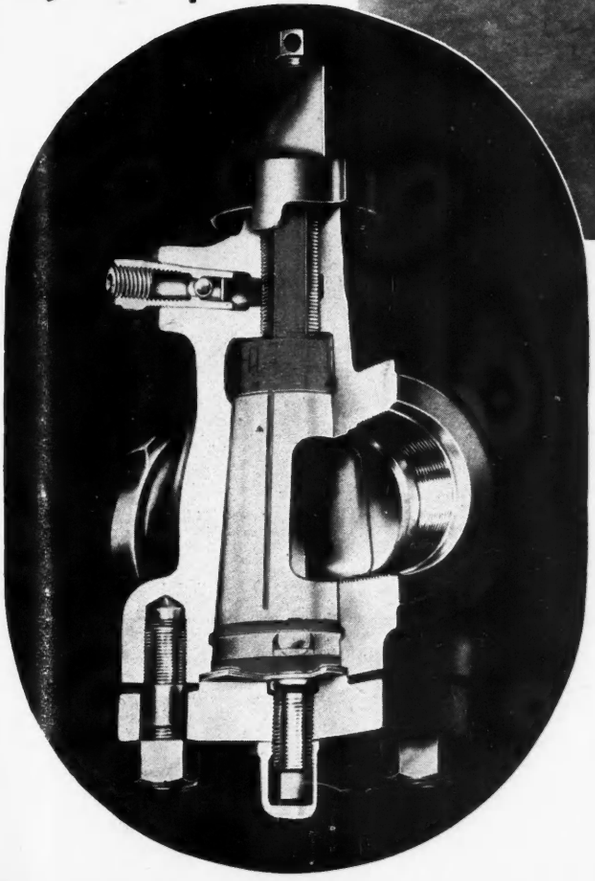

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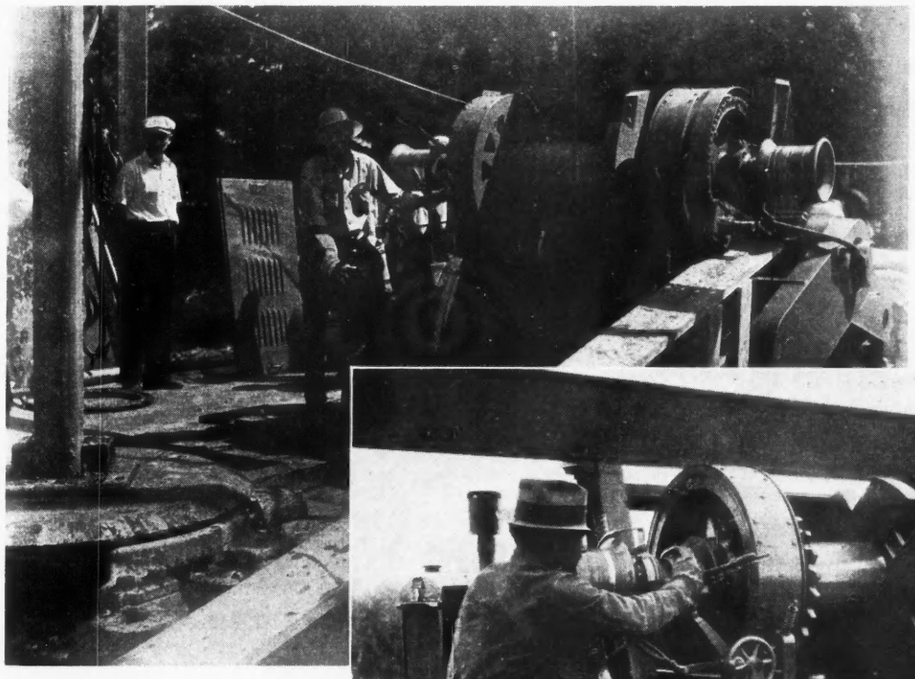
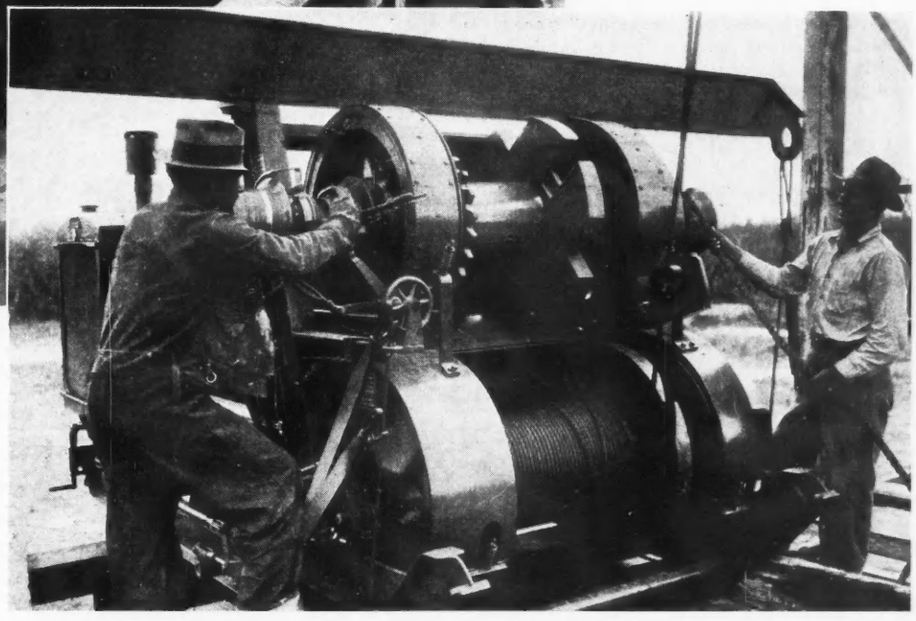


RIGGING-UP IN TEXAS



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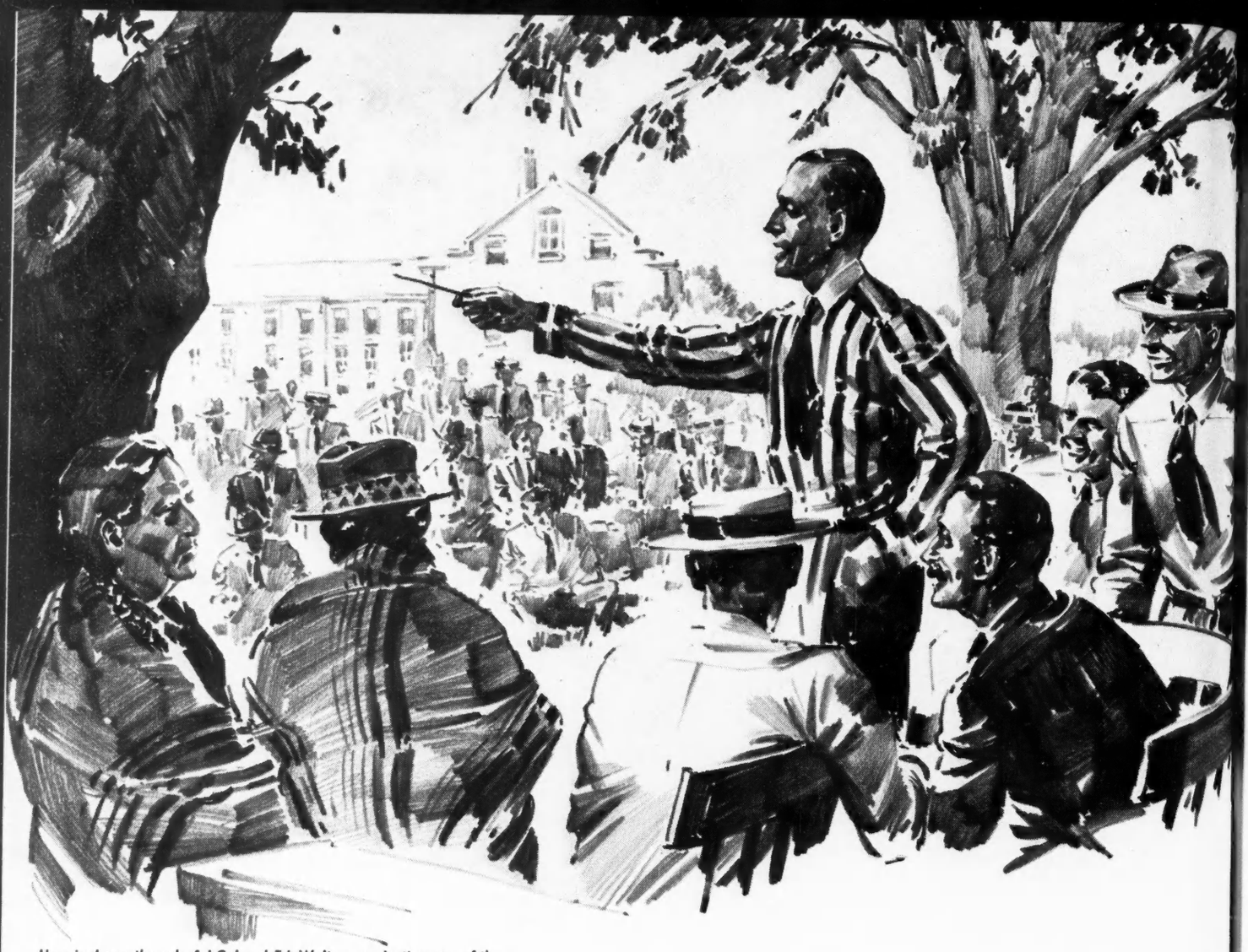

Here is shown the colorful Colonel Ed. Walters conducting one of the Osage sales under the famous "million dollar oak" at Pawhuska, Oklahoma. The first of these sales took place November 11, 1912 and paid the tribe $39,436. In the twenty-five years since, their income from these sales is estimated totaling $113,572,000.00

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OIL AND GAS WELL CHEMICAL SERVICE

THE OIL WEEKLY

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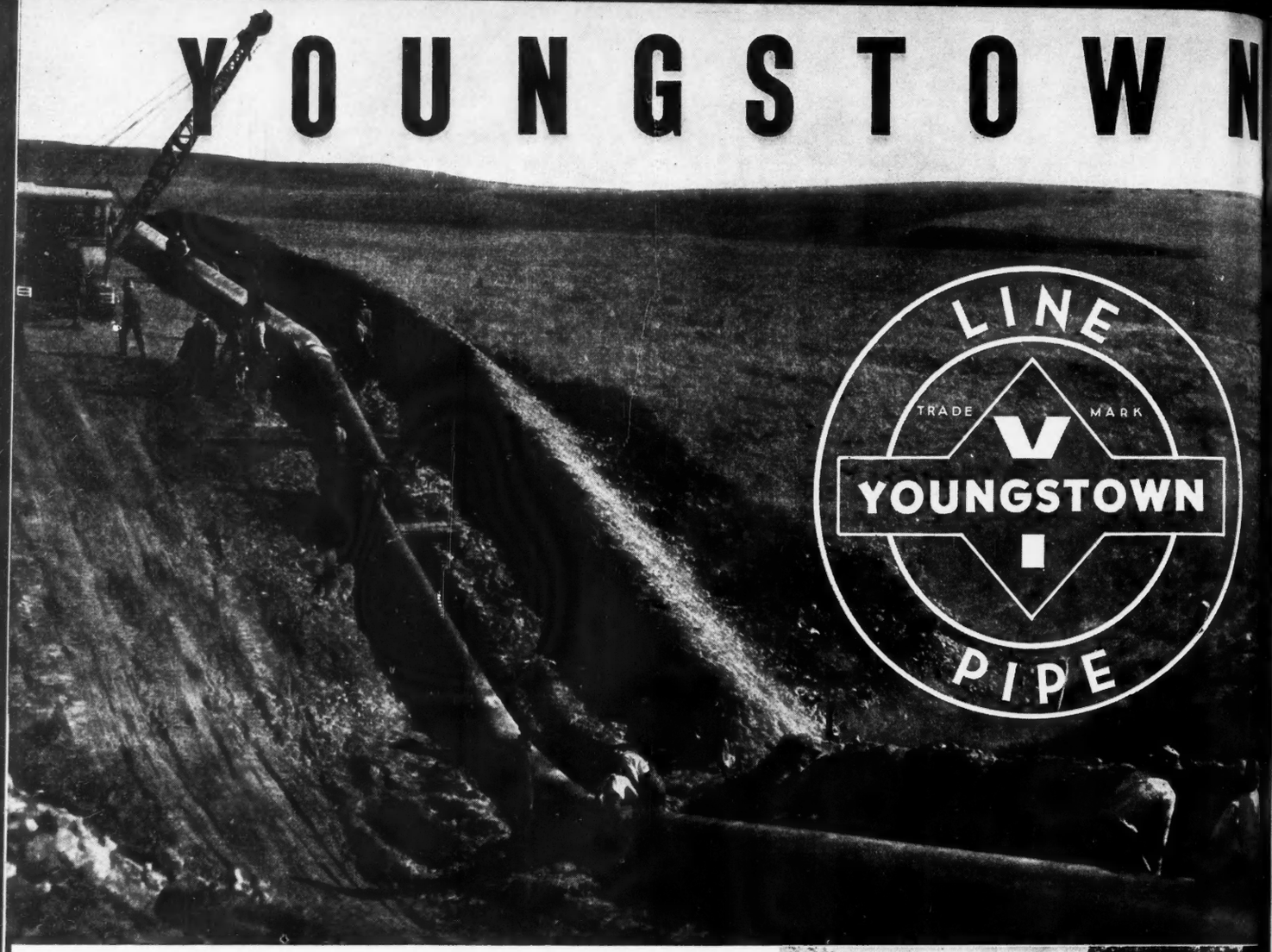
YOUNGSTOWN



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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

This Week:

TEXAS producers and buyers asked at the statewide hearing on December 18 that the railroad commission grant a greater production allowable for January. Purchasers filed nominations for 1,438,796 barrels, 54,913 barrels more than in November. The state's allowable on December 18 was calculated at 1,230,435 barrels. The U. S. Bureau of Mines announced Texas' January demand at 1,176,000 barrels compared with 1,145,200 barrels during December. **Page 8.**

THE Louisiana Conservation Commission has partly promulgated a gas-oil ratio and January allowable order for the Louisiana side of the Rodessa field. The allowable is to be based 50 percent on acreage and 50 percent on bottom-hole pressure. The gas-oil ratio of wells is to be reduced to 2000 to 1, as compared with the present ratio of 12,500 to 1. Definite announcement of the order, which may contain a few revisions, is expected to be made immediately. **Page 8.**

THE federal grand jury at Madison, Wisconsin, that indicted major oil companies and numerous individuals for alleged anti-trust law violations was dismissed last week, although their work was not completed, and a new jury impaneled. This made it appear the government was but little advanced from the start of the investigation seven months ago. Moreover, the dismissal gives credence to the belief the government will not press for trial on the indictments returned by the old jury, which on December 7 was charged by the oil companies with being "hand-picked" and therefore illegal. Many of the witnesses that testified before the previous grand jury are expected to be called before the new one. **Page 9.**

THE United States Supreme Court last week refused to review a suit contesting the right of an illegally drilled well in East Texas to operate, which in effect affirmed decisions in lower courts. The decision was important because of its possible influence in causing similar steps to be taken elsewhere. The test in question had been drilled after a permit to drill had been refused. A $1000 fine was paid by the owner as a result; however, this did not enter into the Supreme Court ruling; it was concerned only with the well's right to produce after being drilled. **Page 9.**

ALL officers of the general Mid-Continent Oil & Gas Association were reelected on December 15 with one exception. Frank O. Prior of Stanolind Oil & Gas Company was elected vice president for Kansas, succeeding George S. Rollin, formerly with Shell Petroleum Corporation, but now an independent operator. J. D. Collett, O'Keefe & Collett, was selected president of the organization again. **Page 10**

THE consumption of crude oil from many fields is being affected by the changing demand of industrial users for products that meet certain specifications. Many producing areas are experiencing a strong demand, while others are receiving a declining call for crude. The demand for crudes that enables refiners to produce specific qualities of products is causing both refining and producing men trouble. **Page 30.**

THE Barco concession in Colombia is called one of the three most interesting production developments in the world. A review of its history and the problems involved is fascinating. Hardships, perils and toils have been experienced in large numbers, but an important oil reserve is being carved out of the jungle and likewise workers are being equipped with many of the comforts and care found in American homes. The story of Barco is one of modern science pioneering in the wildest regions of the world! **Page 16.**

Next Week:

THERE are some who fear that if present unnecessary drilling continues, and if, at the same time, production is held to reasonable market demand limits, the industry may soon find practically all wells having allowables of such small size as to make them unprofitable. There can be no question but that well allowables have been diminishing, and it appears if drilling continues at its present rate they will continue to decline. Such a situation, considered in the light of economic and legal principles, is of importance. A committee appointed by one of the leading industrial associations has studied the conditions, and its report will be published in full.

WHAT is the most important oil strike made during 1936 in northern Mid-Continent (Oklahoma-Kansas)? Is it the new discovery in Clark County, southwestern Kansas? The new field is of importance, and not only because of the possibilities of prolific production but due to its probable influence in starting deep exploratory drilling in south Kansas and northwest Oklahoma. The situation will be presented in our next issue, including a discussion of the geological and drilling problems, which are apt to be difficult and troublesome.

FOR the last five weeks each issue has contained an installment of M. T. Halbouty's study of petrographic and physical characteristics of seven Gulf Coast producing sands. Next week he will present his conclusions, which will show whether these horizons may be determined as "this or that" formation by petrographic and physical inspection.

Request More Oil

TEXAS PRODUCERS AND BUYERS ASK FOR LARGER PRODUCTION

AUSTIN.

EVIDENCE presented at the statewide hearing before the Texas Railroad Commission December 18 indicates that there will be no need to reduce Texas allowables during the month of January. Purchasers filed nominations to buy 1,438,796 barrels daily during the month of January, and producers requested greater allowables. The Bureau of Mines recommended that the consumer demand for Texas oil during that month would be 1,176,000 barrels daily, an increase of 30,800 barrels over the December recommendation.

The commission reported that the Texas allowable fixed by orders effective December 1 totaled 1,204,395 barrels daily. Since that time 535 new wells have been completed in Texas and to them has been assigned an allowable of 26,040 barrels per day. This resulted in a total allowable of 1,230,435 barrels daily on December 18.

Since Texas usually produces about two percent less than the allowable, this means that Texas is now producing about 1,205,827 barrels per day, or 60,627 barrels more than the Bureau of Mines recommended for the month of December.

Several companies saw fit to file requests for increases but not one suggestion was made that the allowable for any field be cut.

At the hearing Friday, five officials of the Oklahoma proration body appeared as observers. This group included A. S. J. Shaw, member of the Oklahoma Corporation Commission, Senator Tom Anglin, representative of Oklahoma's Governor on the Interstate Compact, former Governor W. J. Holloway, Earl Foster, corporation commission attorney and Art Walker, secretary of the oil compact.

Panhandle operators asked an increase of 10,000 barrels per day for that field. They presented evidence to show that this district receives less proratable oil than any other in Texas and asked to be placed on a parity with the next lowest district, which is West Central Texas.

The operators contend that they receive only six barrels of proratable oil per well while the West Central Texas allowance is 10 barrels. E. J. Dunigan, Jr., testified that during the past 11 months a total of 3,750,000 barrels had been withdrawn from storage in the Panhandle and that this had averaged 27,000 barrels daily during the month of November. Only Humble Oil & Refining Company and The Texas Company had failed to make any storage withdrawals.

Testimony by Danciger Oil & Refining Company indicated it was unable to obtain enough oil to keep its Pampa refinery eporating efficiently. It indicated that it needed 3000 barrels more a day than is now available to maintain a supply of refined products sufficient to meet needs for 15 days.

Phillips Petroleum Company has in storage some 2,000,000 barrels of sour crude which it offered for purchase, but Danciger was unable to process this in its plant. Don Emory, attorney for Phillips Petroleum Company, stated that Phillips would be glad to accept all its share for any increase in the field which did not exceed 5000 barrels. Should the field allowable be raised more than 5000 barrels, Emory said that it would surrender enough connections to adjust for the difference. The Texas Company announced that it desired to purchase 2000 barrels more oil from the Panhandle.

An increase of 1000 barrels daily for the Raccoon Bend field was requested by Humble Oil & Refining Company. Charles I. Francis, attorney for Pure Oil Company, asked that Van share in any increase granted. He asserted that the field had not shared proportionately in the market increase for Texas oil which has developed during 1936.

A decline of 4.59 pounds in the average bottom-hole pressure of the East Texas field for the month ending December 12 was reported by V. E. Cottingham, director of production for the railroad commission. The pressure on

[*Continued on page 60*]

New Rodessa Order

TO ALLOCATE ON ACREAGE AND PRESSURE; REDUCE GAS RATIO

SHREVEPORT.

THE Louisiana Conservation Commission last week partly promulgated a gas-oil ratio order and a January allowable order for the Louisiana side of the Rodessa field, but withheld formal promulgation pending certain revisions. The order is expected to be announced December 21 or shortly thereafter.

Considerable importance is attached to the new order, in that it calls for a drastic reduction in the gas-oil ratio and will establish allowables on an acreage and bottom-hole pressure basis.

In the part of the order made public it was announced that allowables will be based on a 50 percent acreage and 50 percent bottom-hole pressure basis. A new pressure map of the field will be drawn, bottom-hole pressures of affected wells will be resurveyed and those falling within certain contour lines of pressure will be given certain allowables dependent upon acreage.

The gas-oil ratio for oil wells was reduced to 2,000 to 1, as compared to the present ratio of 12,500 to 1. The order places the gas-oil ratio for oil wells on the Louisiana side at the same figure that has been in effect on the Texas side since the first oil wells on that side of the field were completed. Under the new order distillate wells are classed as gas wells but on what basis of determination was not announced. It was said that individual determinations will be made of distillate wells to classify them as oil or gas. Allowable of gas wells will be on a basis provided in Act 252 of the Louisiana legislature of 1924 which regulates the withdrawal allowed for a gasser ranging from 24 percent of the open flow capacity for one well to 160 acres to 7 percent for wells on five acres.

It is understood that in order to have a firmer legal foundation the entire gas-oil ratio order and the allowable order are based on this legislative act, as it felt that it will be more difficult to attack in court the statute than it would be to attack the validity of a simple conservation commission order.

The total allowable for the field was left at 60,000 barrels, the figure for December. The December per-well allowable was 225 barrels.

The Louisiana Independent Oil & Gas Association, recently organized with W. J. Hunter, president, and R. J. Reinke, sec-

SUPPORT BUREAU

Oklahoma urges states use Bureau figures

TULSA.

OKLAHOMA oil producers will seek to have allowables for the state kept down to the total recommended by the United States Bureau of Mines when the hearing is held before the Corporation Commission December 29. Advance information is that the bureau will estimate the Oklahoma part of domestic production at 573,000 barrels daily. Reford Bond, chairman of the Oklahoma Commission, favors holding production to the level estimated in Washington.

"I think we should abide by these figures," he said. "Not only that but I think all the compacting states should accept these figures. I cannot speak for the rest of the commission nor can I predict what will happen at the next meeting—when we discuss market demand. We all know, however, that to conserve oil is to prevent waste and that is what the commission is trying to do."

If the figure above is recommended from Washington it will represent an increase of 6100 barrels over the recommendation for December. The December allowable in Oklahoma is 595,300 barrels daily, five percent in excess of the federal recommendation. The Oklahoma commission raised its allowable following action of the Texas Railroad Commission in surpassing the bureau recommendation for that month.

retary, announced vigorous opposition to the order and in telegrams to Governor Richard W. Leche and Conservation Commissioner William G. Rankin asked revision of the order and indicated action in the federal court unless revisions were made.

Their telegram follows:

"Press reports indicate commission about to drastically change present order regulating production of oil and gas in Rodessa field which will contain acreage proration and reduction in existing gas oil ratio impossible to reach together with many other untenable features. Should this order become effective as reported it will mean complete ruin to many independent operators and hundreds of individual royalty owners and land owners, the revenues to the state will shrink $4,000 per day and life of field will not be prolonged, for benefits will all accrue to Texas. This association protested such an order at the Baton Rouge hearing and the record of that hearing is filled with proof of our contention. We desire to support regular orderly and equitable proration in Louisiana. If this order is issued the entire proration set up will necessarily be attacked in Federal Courts. Should this order be issued as reported by press, Texas side of Rodessa field with their low gas-oil ratio will absorb Louisiana production which will mean severe loss in tax revenue to the State of Louisiana.

"The proposed order, if press reports are correct, will be discriminatory and will not bring about ratable taking and equity in the Rodessa field but will favor a few large interests and discriminate against and result in loss to hundreds of individual land and royalty owners and operators and State of Louisiana.

"Testimony at the last hearing showed 58 wells causing the Rodessa situation. These wells were illegally completed and operating in open violation of state law. No new order should be issued until normal conditions are restored by the reconditioning of these wells. Principal waste of gas in the field is caused by these illegal wells and upon repair of these illegal wells the condition at Rodessa would be greatly benefited and no new order should be issued until the present law violations are corrected. We urge you to reconsider and arrange another hearing before issuing such revised regulatory order as press reports indicate.

"Please telegraph answer."

Impanel New Jury

OLD JURORS IN ANTI-TRUST SUIT DISCHARGED BY COURT

MADISON, WIS.

INDICATION that the government's investigation of alleged anti-trust law violations by major oil companies is but little more advanced than when a grand jury convened here over seven months ago to hear the charges was given this week by two significant developments here:

1. The grand jury which William J. Donovan, attorney on behalf of 26 companies and 17 of the 70 individuals under indictment, two weeks ago challenged as illegally drawn was discharged late December 14 by Judge Patrick T. Stone without making an additional report.

2. A new federal grand jury, selected in the manner set forth in the federal judicial code, was impaneled by Judge Stone Tuesday.

Claim Jury Illegally Selected

Before scheduled arraignment of the corporate defendants and 17 of the individual defendants here December 7, Donovan asked that charges made in two indictments returned by the now dismissed grand jury be quashed on the ground that the jury was illegally drawn and that three of the jurors were hand-picked."

Although government attorneys announced late Tuesday that they will answer Donovan's plea, dismissal of the old grand jury and qualification of the new gave credence to the belief of observers here that the government will not be successful in bringing trial on the two indictments returned by the old grand jury. Judge Stone gave government attorneys 30 days in which to answer or demur to Donovan's plea.

Qualification of the new grand jury to hear charges in the oil investigation indicated the government will seek new indictments, to be used if the present ones are thrown out on the plea of defense attorneys. Of the original panel drawn for the new grand jury, seven prospective jurymen were rejected because they or some of their close relatives were connected with the oil industry.

Shrouding the activities of the new grand jury in the customary secrecy, government attorneys refused to confirm rumors that this body will go over the same ground that had previously been covered by the old jury. Appearance of witnesses in Madison during the next few weeks on whose testimony the challenged indictments were obtained from the old grand jury is expected to confirm these rumors.

It is also believed that the new grand jury will cover practices that had not been investigated by the old body, or that government officials were intending to place before the old body when its legality was questioned.

Added weight to the belief held here that Donovan's plea will be upheld and that the charges now pending against leaders in the oil industry be dropped is given in the fact that the old grand jury had reconvened on November 30 and was hearing testimony expected to result in further indictments when it was discharged December 14 without presenting a formal report or indictment based on its work of the past two weeks.

The action was taken to indicate the government is placing little hope in having its coming answer to Donovan's plea upheld and a trial conducted on the indictments previously issued by the old grand jury.

At the court session held here December 7, government attorneys said that new indictments could be prepared within about three weeks, basing their estimate on experience gained during the long sessions with the old grand jury since May 4. Judge Stone said at that time that he hesitated to run the risk of a long drawn-out trial at the end of which the government's charges might be thrown out by a higher court because of a charge of illegality of the indictments.

Under federal statutes, the terms of the grand jurymen expire December 1, but the jury can continue deliberations

Refuse to Review

CANNOT STOP OPERATION OF ILLEGALLY DRILLED WELL

WASHINGTON, D. C.

REFUSING to review the suit brought by Magnolia Petroleum Company to enjoin G. T. Blankenship from producing oil from a well illegally drilled by the latter after the Texas Railroad Commission had denied him a permit to do so, the Supreme Court on December 14 in effect affirmed a decision of the Fifth Circuit Court of Appeals holding that it would be inequitable to allow a perpetual injunction preventing Blankenship from getting any oil while Magnolia Petroleum Company continues to drain it all away.

The lower court decision held that the well, whether lawfully drilled or not, ought not to be permanently closed, and that the petitioner's remedy if he was producing too much oil is to apply to the commission for a rule of proration among all the competing wells. The decision made it clear that the court did not decide that payment of the penalty for illegal drilling ($1000 assessed by the railroad commission) rendered the well lawful, but that the status of the well being at least doubtful, it was not for the petitioner to stop its operation by permanent injunction.

In appealing the case to Washington, Magnolia Petroleum Company asserted "the question at issue is of great public importance in that it affects the many thousands of oil-lease owners in Texas. As reffected by the numerous decisions of the Texas appellate courts affirming the right to injunctive relief under such circumstances," it was pointed out, "it is of the utmost importance to the great oil industry of Texas that this court review the opinion of the Circuit Court of Appeals so as to conform the rule in the United States courts to that in the local courts."

In a reply brief, counsel for Blankenship pointed out that the Texas courts had ruled in his favor consistently; that there was no conflict between their decisions and applicable local decisions; that the suit was not brought for the purpose of testing the validity of an order of the railroad commission but was brought after the well had been drilled and was being operated with the consent of the commission, and that the Texas Supreme Court had previously held that the petitioner was not entitled to injunctive relief against him.

on matters pending before it on that date. The old jury was continuing its oil investigation at the time its constitutionality was challenged by Donovan.

On July 28, this jury returned indictments charging 23 major oil companies, 3 trade journals and 58 individuals with conspiracy to fix and maintain artificially high retail gasoline prices. On November 6, the jury returned a second indictment naming 24 oil companies and 46 individuals on a charge of conspiracy to maintain uniform prices and contracts with jobbers. Many of those named in the second indictment were also named in the first.

Able to Proceed Faster

If the government attorneys do not choose to oppose Donovan's plea for dismissal of these indictments, or if Judge Stone rules in favor of the oil defendants on this issue, the case of the government will be at exactly the point which it was when the old grand jury opened its investigation last May.

Government legal forces will, however, be able to proceed at a faster pace in presenting evidence before a new grand jury because of the experience gained, and organization of evidence effected, during the term of the old investigating body. It is quite probable that the government will be as successful in obtaining indictments from the new grand jury as it was from the old, observers believe.

RE-ELECT OFFICERS
Mid-Continent Ass'n re-elects all but one

TULSA.

ONE change was made in officials of the general Mid-Continent Oil & Gas Association when directors met December 15 for the annual meeting. F. O. Prior, Stanolind Oil & Gas Company, Tulsa, was elected vice president for Kansas. He succeeds George S. Rollin, former manager of the Tulsa division of Shell Petroleum Corporation, who is now an independent producer at San Antonio.

Prior Succeeds Rollin

Those re-elected are: J. D. Collett, O'Keefe & Collett, Fort Worth, president; W. H. Francis, Magnolia Petroleum Company, Dallas, vice president for Texas; D. W. Harris, Arkansas Natural Gas Company, Shreveport, vice president for Louisiana; Ralph Pryor, independent producer, Wichita, vice president for Kansas; Van S. Welch, independent producer of Artesia, vice president for New Mexico; Clarel B. Mapes, Tulsa, secretary-treasurer.

Members of the board, other than those shown in the photograph or holding office, are:

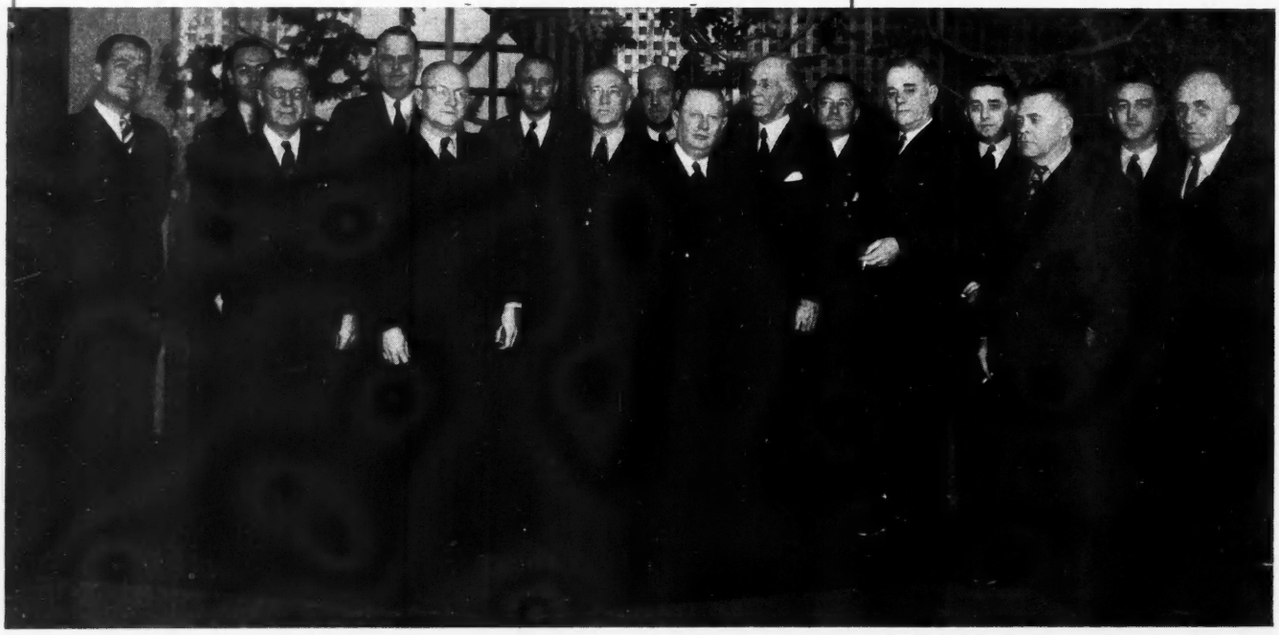
Kansas-Oklahoma division: A. W. Ambrose, Empire Oil & Refining Company, Bartlesville; A. M. Blow, Amerada Petroleum Corporation, Tulsa; Burdette Blue, Indian Territory Illuminating Oil Company, Bartlesville; William N. Davis, Phillips Petroleum Company, Bartlesville; J. C. Denton, Mid-Continent Petroleum Corporation, Tulsa; A. L. Derby, Derby Oil Company, Wichita; E. R. Filley, The Texas Company, Tulsa; Rush Greenslade, Gulf Oil Corporation, Tulsa; C. H. Lieb, Carter Oil Company, Tulsa; D. J. Moran, Continental Oil Company, Ponca City; H. L. Phillips, Sinclair Prairie Oil Company, Tulsa; R. B. Pringle, Tide Water Oil Company, Tulsa; E. B. Reeser, Barnsdall Oil Company, Tulsa; W. G. Skelly, Skelly Oil Company, Tulsa; Will H. Smith, Ardmore; W. R. Wallace, Magnolia Petroleum Company, Oklahoma City.

From the Louisiana-Arkansas division: C. N. Black, Magnolia Petroleum Company, Shreveport; A. R. Campbell, secretary, Louisiana-Arkansas division; J. S. Hasson, Ohio Oil Company, Shreveport; Charles G. Laskey, Belchic & Laskey, Shreveport; F. Ray McGrew, Standard Pipe Line Company, Shreveport; J. R. McWilliams, Standard Oil Company of Louisiana, Shreveport; C. R. Minor, Gulf Refining Company, Shreveport.

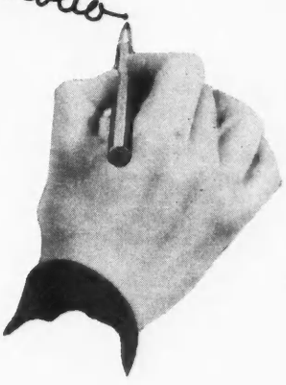
From the Texas division: E. H. Blum, Atlantic Refining Company, Dallas; Al Buchanan, San Antonio; John Cowden, Clark & Cowden Drilling Company, Dallas; H. R. Cullen, Quintana Petroleum Company, Houston; Don Emery, Phillips Petroleum Company, Amarillo; E. M. Freeman, The Texas Company, Houston; J. R. Gahan, Tide Water Oil Company, Houston; H. J. Hawley, The California Company, Dallas; J. C. Hunter, Grisham & Hunter, Abilene; R. B. Kelly, Pure Oil Company, Fort Worth; H. A. King, Sinclair Prairie Oil Company, Houston; R. A. King, King Royalty Company, Wichita Falls; R. S. McFarland, Texas-Seaboard Oil Company, Dallas; John G. Pew, Sun Oil Company, Dallas; W. B. Pyron, Gulf Oil Corporation, Houston; John R. Suman, Humble Oil & Refining Company, Houston; T. E. Swigart, Shell Petroleum Corporation, Houston.

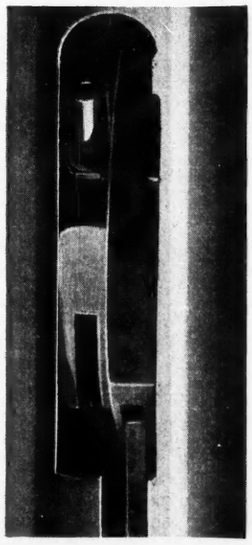
Directors and members of the staff of the Mid-Continent Oil & Gas Association, who met in Tulsa, December 15 for the annual meeting and election of officers, left to right: Jake L. Hamon, Cox & Hamon, Dallas; A. J. Galloway, Shell Petroleum Corporation, Tulsa; A. R. Campbell, secretary, Louisiana-Arkansas division; Robert S. Kerr, Anderson-Kerr Drilling Company, Oklahoma City; L. M. Moffitt, Triangle Drilling Company, Shreveport; F. O. Prior, Stanolind Oil & Gas Company, Tulsa; A. M. McCorkle, Stanolind Oil & Gas Company, Houston; W. W. Flemming, Ohio Oil Company, Tulsa; Harry Sharp, Associated Industries of Kansas, Topeka; J. D. Collett, O'Keefe & Collett, Fort Worth; L. D. Messner, Barnsdall Oil Company, Tulsa; Tom C. Johnson, independent producer, Wichita; Clarel B. Mapes, secretary-treasurer, Tulsa; George Gibbons, secretary Texas division; John Campbell, Kansas-Oklahoma division; J. D. McNutt, Pure Oil Company, Tulsa.

—Photo by Alvin C. Krupnick



Dear Santa Claus:
Please bring me a Baker Wall Scraper like you brought Jimmie Oilman last Christmas. We have a lot of trouble in setting casing in tight holes and in scraping away plastered mud when we want to bring in a well. We see Jimmie uses this Wall Scraper and he never has any trouble.
Don't forget to bring some extra sets of blades so we can use it in different size holes.
Pete Petrolio





Actual core taken from side-wall; full size. (Above) Wall Sampler Blades with core-taking tubes.

HERE'S WHY PETE WANTS A BAKER WALL SCRAPER

Because it can be used to . . .

1. Bring in the well—by scraping plastered mud from the face of productive oil sand, thus increasing production.
2. Underream when setting or running liners and casing. Permits setting large diameter without turning down couplings.
3. Straighten Crooked Holes—by cutting a square shoulder as a new start to bring the hole back to vertical.
4. Secure Better Cementing Results—by wall scraping a "bottleneck" to secure better cement distribution up and around the casing and shoe.
5. Clean Out Old Wells—by underreaming to enlarge productive area.
6. Effect Bottom Water Shut-Off—by "wall-scraping" away old concrete as a first step in recementing when bottom water shut-off fails.
7. **TAKE CORES FROM SIDEWALLS—by substituting a pair of Baker Wall Sampler Blades. Actual cores can thus be taken from a previously drilled hole.**

Write for Complete Details or refer to the Baker Section of your Composite Catalog

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Odessa, Texas – Telephone 217

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BAKER ROTARY WALL SCRAPER

MEN IN THE INDUSTRY'S NEWS

HU M. HARRIS ELECTED CHAIRMAN OF THE HOUSTON CHAPTER OF THE A. P. I. DIVISION OF PRODUCTION

NEW CHAIRMAN HAS BEEN AN ACTIVE MEMBER OF THE INSTITUTE FOR YEARS

Hu M. HARRIS, of Humble Oil & Refining Company, was elected chairman for the ensuing year of the Houston chapter of the American Petroleum Institute Division of Production on December 15. He succeeds A. G. Levy, engineer with The Texas Company, who resigned a month before his term expired due to his permanent transfer from Houston to Shreveport, Louisiana.

Other new officers of the chapter are: Neil Williams, Oil & Gas Journal, first vice chairman; Gordon Richmond, Hughes Tool Company, second vice-chairman; and Carl Hickman, Dewey T. Ross Engineering Corporation, secretary-treasurer.

In addition to the election of officers, six new members were elected to the advisory board for a two-year term. These included the following: Carl E. Reistle, Humble Oil & Refining Company; Paul Hubbard, Gulf Oil Corporation; E. P. Hayes, The Texas Company; Harry L. Edwards, Edwards Drilling Company; C. A. Russell, Pan-American Production Company; and D. B. Collins, Shell Petroleum Corporation.

The balance of the 12-member advisory board will be composed of members elected a year ago for a two-year term. These are: C. C. Brown, Pure Oil Company; Wright Hodges, Standard Oil Company of Kansas; D. C. Harman, Stanolind Oil & Gas Company; Rex Hamaker, Reed Roller Bit Company; A. W. Thompson, Mandeville & Thompson; and Warren L. Baker, The Oil Weekly.

W. T. DABBS, who has been tool pusher for Humble Oil & Refining Company in the Sand Hills district of West Texas, has been promoted to district superintendent and placed in charge of the Hurdle and Big Lake districts.

MAX S. LOY, of Bradford, Pennsylvania, has been placed in charge of the South Texas office to be opened in the Milam Building in San Antonio January 1 by the Sloan and Zook Company. It is the third Texas office to be opened this year by this concern. Paul D. Torrey is in charge of the Gulf Coast office at Houston, while Ralph S. Cooley is in charge of the West Texas district at Midland. Five wildcat tests were drilled by this company during 1936 in Texas areas and two more are active. A rather active campaign is planned for 1937.

E. H. FINCH has returned to San Antonio, Texas, after an absence of several months in which he did geological work in Cuba.

HU M. HARRIS

R. J. SULLIVAN, formerly gasoline plant superintendent in East Texas for Humble Oil & Refining Company, now is located in the Houston office of the company.

DR. GEORGE OTIS SMITH, former president of the American Institute of Mining and Metallurgical Engineers and former director of the United States Geological Survey, spoke at a joint meeting of the Gulf Coast Section of the A.I.M.E. and the Houston Geological Society in the Houston Club on December 18.

A. I. LEVORSEN, consulting geologist of Tulsa, and president of the American Association of Petroleum Geologists, have a series of four lectures at the University of Kansas on December 14 to 17. The titles of the talks were: Miscellaneous Problems in Petroleum Geology, Paleogeology, The Accumulation of Oil, and Petroleum Reserves and Discovery. The lectures were sponsored by the Department of Geology.

JARRETT S. SMITH, formerly district gas superintendent in charge of the Pledger Natural Gas System for Humble Oil & Refining Company, has been transferred and made superintendent of the Tomball Natural Gas System, Tomball, Texas.

F. H. THRAILKILL, district manager, and J. A. Mussler, district manager of tubular sales, Continental Supply Company, Houston, were in the North and West Texas territory last week.

JOHN A. BROWN, president of Socony-Vacuum Oil Company, Inc., has accepted appointment as chairman of the committee of the Petroleum Industry, which will participate in the campaign to sell $27,829,500 of debenture bonds to finance construction of the New York World's Fair of 1939. The committee Brown will head is one of 68 volunteer groups representing trade and industry organized by the World's Fair Bond Sales Committee. Preliminary studies of the Fair, which will open on April 30, 1936, indicate that benefits to trade and industry in excess of $1,000,000,000 may be expected.

A leading oil man for many years, Brown from 1916 to 1926 was manager of Mexican business of Standard Oil Company of New Jersey and for the next two years traveled extensively, supervising the foreign production of the Standard Oil Company. In 1929, Brown became president of General Petroleum Corporation of California. He is now president and chairman of the executive committee of Socony-Vacuum Oil Company, Inc.

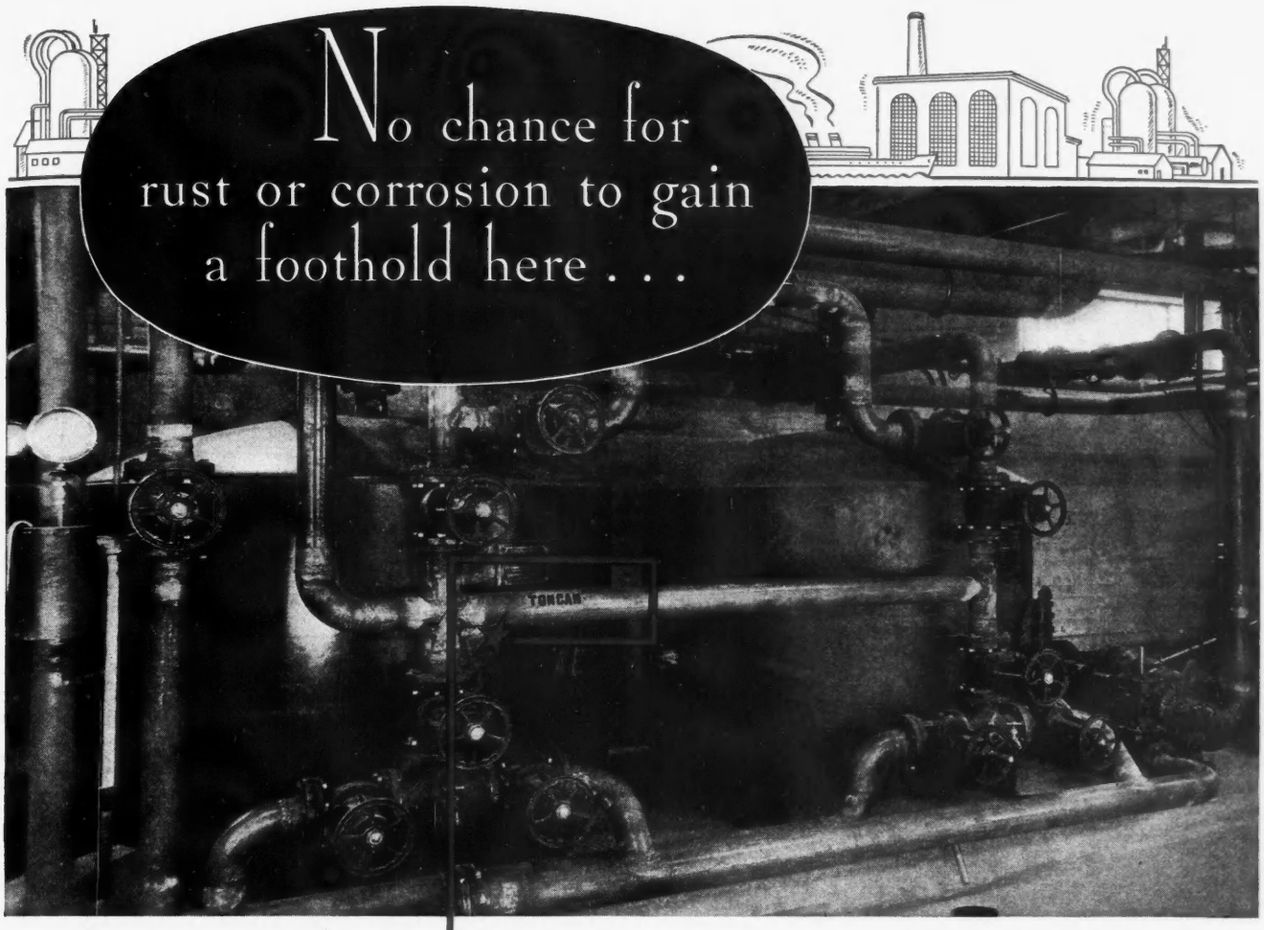
E. S. WALNE, general manager of Bettis Sales Company, Houston, spent several days recently in Tampico, Mexico, where he was for many years connected with Compania Mexicana de Petroleo "El Aguila" S, A.

ROGER QUINTANILLA, pipe line foreman of Mexican Gulf Oil Company in the Toteco district, Mexico, has returned to work after a several weeks' absence in Houston, where he underwent an operation.

ANDREW M. ROWLEY, secretary, director and publicity manager of the First International Consumers Petroleum Exposition, scheduled to be held in Detroit, in January, has resigned and severed all connections wtih the company and has

The Oil Man's Calendar

JAN. 16–24	First International Consumers Petroleum Exposition, Detroit, Michigan.
FEB. 15-19	American Institute of Mining and Metallurgical Engineers, New York
MAR. 17–19	American Association of Petroleum Geologists, Los Angeles, California.
APR. 8–10	Petroleum Industry Electrical Association, Shreveport, Louisiana.
15–16	National Petroleum Association, Cleveland, Ohio.
MAY 6–7	American Petroleum Institute, Division of Production, Eastern District, Deshler-Wallick Hotel, Columbus, Ohio.
10–16	American Gas Association, Natural Gas Department, Kansas City, Missouri.
JUNE 1–3	American Petroleum Institute, Mid-Year Meeting, Colorado Springs, Colorado.



THE JOB IS 100% *TONCAN IRON*

● **Here is an example of sound, economical engineering—an all-Toncan Iron piping system. Rust has no opportunity to creep in and destroy—for the pipe and fittings, even the welding rod used, is Toncan Iron—the alloy of refined open-hearth iron, copper and molybdenum that resists rust and corrosion better than any ferrous material in its price class.**

Wise engineers in every branch of industry are following this same practice today—and thereby saving piping worries and expense later on. They use Toncan Iron Pipe for boiler feed, condensate and blow-off lines, for salt water and brine lines, for process piping, for acid sludge and crude oil lines—for all types of installations in which less resistant pipe is expensive to use because of severe conditions and resultant short service life. And they go a step further by using the same corrosion-resisting material for fittings.

You need not experiment with Toncan Iron Pipe—service records from all classifications of industry have proved its dependability and economy. And what others have done with this rust-resisting pipe, you can do, too. Write for a copy of "Pipe for Permanence."

REPUBLIC STEEL

Look to Republic as a major source of supply for butt weld, lap weld and electric weld pipe—made of carbon steel, copper-bearing steel and Toncan Copper Molybdenum Iron.

Republic Steel

CORPORATION

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REG. U.S. PAT. OFF.
TONCAN
COPPER
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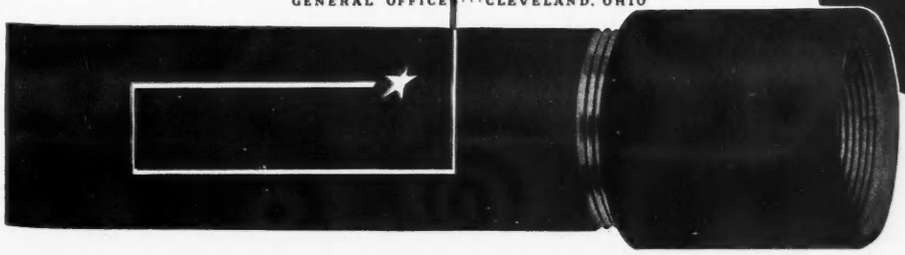
IRON PIPE



Celebrate Fortieth Diesel Anniversary

—Foto-Ad Photography.

More than 350 industrial and civic leaders and educators attended the Diesel Power Luncheon in Chicago to celebrate the Fortieth Anniversary of Diesel Power in the United States and to honor the memory of the late Dr. Rudolf Diesel. Almost every Diesel manufacturing company in the United States was represented, and many oil and other industrial concerns. The host was B. C. Heacock, president, Caterpillar Tractor Company. Left to right are: M. G. Paulus, vice-president, Standard Oil Company of Indiana, and F. W. Sullivan, research director of the same company.

returned to Tulsa from Detroit. Rowley tendered his resignation November 14 but was prevailed upon by other stockholders and directors to remain with the company to aid in working out plans for the proposed exposition.

G. C. PATTERSON has been promoted by Humble Oil & Refining Company to the position of gasoline plant superintendent in East Texas. He formerly was gasoline plant foreman for the company in the London district.

F. E. MARSHALL, former geologist for Signal Oil Company, has been engaged by Snowden & McSweeney Company, Fort Worth, to take charge of a new district office established at Wichita, Kansas.

SAMUEL CHASE WILSON, petroleum geologist and mining engineer of Memphis, Tennessee, is working a large block of leases from a geological standpoint for P. R. Kohlheim, trustee, on the eastern Grenada structure, near Grenada, Mississippi.

H. B. SIMCOX, manager of the Fort Worth district production office of the Continental Oil Company, departed last week, accompanied by members of his family, on a vacation trip to Farrell, Pa.

E. C. HALL, who has been assistant district chief clerk at Conroe for Humble Oil & Refining Company, has been promoted to district chief clerk.

OSCAR HATCHER, chief geologist for E. H. Moore, Inc., resigned effective December 15, to become a consulting geologist. Hatcher will continue to make Ada his home.

A. S. J. SHAW, of the Oklahoma Corporation Commission, headed a delegation of state officials who left Oklahoma City December 18 to attend the oil market demand hearing at Austin, Texas. Others in the party included Earl Foster, proration attorney; Art L. Walker, secretary of the Interstate Oil Compact Commission; Tom Anglin and W. J. Holloway, representing Governor E. W. Marland and C. C. Brown, Oklahoma Tax Commission.

GLENN W. PATCHETT, statistician with the Mid-Continent Oil & Gas Association at Tulsa, is father of a new son, John Edward.

C. F. SULLIVANT, administrative chief in the East Texas field for the Texas Railroad Commission, has been transferred from Kilgore to Houston, where he will relieve E. L. Greene as district supervisor for the Gulf Coast area. Sullivant had charge of the proration violations department in the East Texas field along with his other duties.

FINLEY DOYLE, geologist for Sun Oil Company in West Texas, has returned to headquarters at San Angelo after being temporarily assigned to a wildcat project in Southwest Texas during the past three months.

MAJOR AL WILLIAMS, manager of the aviation sales department of Gulf Oil Corporation at Pittsburgh, sailed recently on the "Queen Mary" for England. He will spend some time abroad, studying the advancements made during the past few years by European aircraft manufacturers.

I. W. HUNTER, 80, pioneer Pennsylvania oil man, died at the home of his son, J. N. Hunter in Tulsa December 13. Hunter, a native of Prospect, in Butler County, Pennsylvania, had been in the oil business since he was 16 years old.

R. S. HENDRIX, Humble Oil & Refining Company, who has been district chief clerk at Conroe, Texas, has been transferred to the Tomball Natural Gas System, Tomball, Texas, and now is chief clerk in charge of the system.

ABRAHAM SILVERBURG, chief chemist of Pierce Oil Company's refinery, has returned to Tampico, Mexico, after a vacation in St. Louis, Missouri.

JOHN S. STORY, 40, Lockhart, Texas, oil man, was found dead on December 16 near San Marcos, Texas. Nearby was his wrecked automobile. Apparently he had fallen asleep and his car struck a culvert, the impact tossing him through the machine's top. His wife and two children survive him.

Xmas Party

TULSA.— The Marathon Employes Club, formed by members of Ohio Oil Company in Tulsa (formerly Marathon Oil Company), held a different kind of Christmas party the night of December 19. Instead of exchanging personal gifts as in the past, members brought toys and gifts for children. Also, employes of the company who have children brought playthings which were in good repair, all of which were turned over to Kathryn Hoppell, trustee of the club. C. B. Simon, assistant treasurer, collected money gifts from those without children, with which to buy candy, fruit, and trees. The gifts and goodies will be taken to the Whitaker Home at Pryor, Oklahoma, the day before Christmas, where it is hoped they will make the Yuletide season a bit brighter for some 200 of the younger children living there.

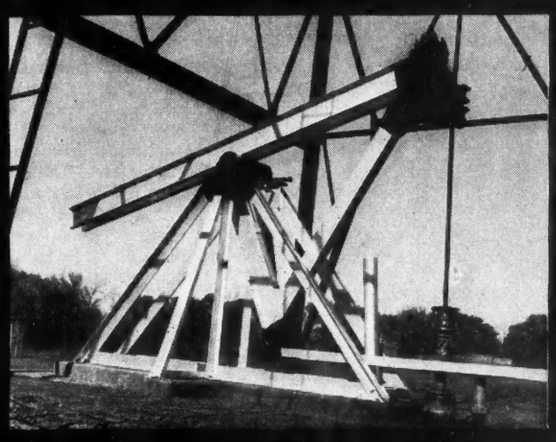
A. I. M. E. BANQUET

College Station, Texas.—The former chairman of the Federal Power Commission, George Otis Smith, was guest speaker at the annual banquet of the Affiliated Student Chapter of the A. I. M. E. at Texas A. & M. on December 17 at Sbisa Hall. Smith is at present affiliated with the A. I. M. E. Other prominent guests included Harry H. Power, head of the Department of Petroleum Engineering at the University of Texas, and Professors Plummer and Fancher; J. W. Steele, the chairman of the Federal Tender Board; W. V. Vietti, The Texas Company; Carl Reistle, Humble Oil & Refining Company; and M. Albertson, Shell Petroleum Corporation.

This banquet marked a step in bringing the students of A. & M. in closer contact with prominent members of the petroleum and geology profession.

Surface Equipment

National . . D-130-S PUMPING JACK



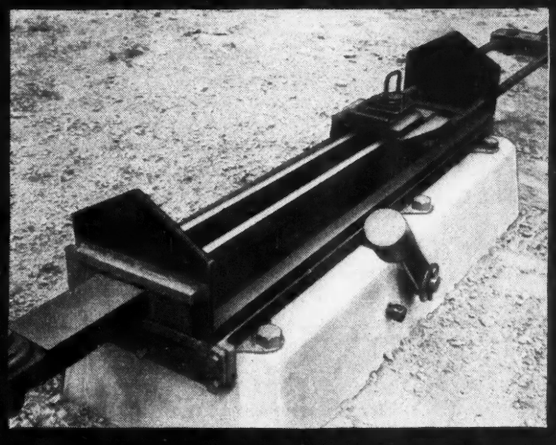
An underpull pattern jack for the long stroke pnmping of deep wells.

For given pull rod stroke, the polished rod stroke can be adjusted over a considerable range.

In designing the straight lift feature of this jack, there has been developed a linkage which very closely approximates a straight lift and at the same time lends itself to simplicity of construction, efficient lubrication and a minimum of maintenance.

Write for Bulletin No. 96 for complete description

IDEAL . . . TYPE OB-36 THROW-OFF



. . . . a method of connecting and disconnecting individual wells operated by a pumping power having a stroke of 36 inches or less. They are recommended for use with any type of central pumping power and can be safely used on pull rod loads up to 25,000 pounds.

With this Throw-Off the operator's hands are not endangered as when hook-offs and hook-ons are made with the common knock-off blocks.

A patented clamp, attached to the pull rod end of the Throw-Off, securely clamps the pull rod.

Write for Bulletin No. 46 for complete description

THE NATIONAL SUPPLY COMPANY

NSCO
REG. U.S. PAT. OFF.

OF DELAWARE

National

Bogota-Cucuta road, a splendid piece of engineering. Camera altitude, 13,000 feet. Surrounding clouds enshroud mountains rising to 16,000 feet. Lighter areas are cultivated fields.

WORLD'S MOST INTERESTING PR

The Barco C

ONE of the three most interesting production developments in the world!" That is how the development of the Barco Concession in Colombia by the Texas Company and Socony-Vacuum Corporation has been designated. And from a standpoint of the history of the concession, from its inception down to date, as well as from a standpoint of the problems involved in developing it, the Barco Concession undoubtedly does offer an interest that is fascinating.

The original history of the concession is well known to the oil industry, but it is rather of the development of the property itself that the person quoted above was speaking . . . and it is of the problem today that this is written. But no discussion of the development of the Barco should ever be written without consideration of the hardships, toils and perils undergone by the geological staffs which originally transferred rumors to facts on structures and seeps, nor will any history of Barco be complete without tribute being paid to the devoted efforts of those Gulf Oil Corporation men who pioneered the work which is now gaining momentum.

The basis for much of the present work was laid by those Gulf men, those responsible for present development emphatically declare. But, while The Texas Company and Socony-Vacuum Corporation took over a real start less than a year ago, theirs is no less the credit.

At this point it might be well to say that develop-

Extent of Barco Concession: **Five tracts comprising about 55,000 to 70,000 hectares (2.47 acres to the hectare) already chosen out of 200,000 hectares provided for in concession. Five more years to complete selection. Concession has 45 years more to operate, after which properties revert to Colombian government. *Barco Concession*, officially known as the *Chaux-Folsom Contract*, is a *national law of Colombia.***

Colombia Petroleum Company holds Barco Concession properties. Colombia Petroleum is in turn held by South American Gulf Oil Company and Carib Syndicate, Ltd., the South American Gulf holding 79 per cent of the stock in the company. South American Gulf Oil Company,* the operating company, is owned half by Socony-Vacuum and half by The Texas Company.

Present Conditions: **Two rigs have been running continuously since 1931, when Gulf started operations. The Texas Company and Socony-Vacuum took over properties of the South American Gulf for $12,000,000 in the spring of 1936. Limits of one structure, Petrolea, have been determined, 15 wells having been drilled. Ten of these are produc-**

* Officers of South American Gulf and Colombia Petroleum Company are:

South American Gulf . . . J. A. Brown, of Socony-Vacuum, is Chairman of the Board; T. Rieber, of The Texas Company, is president; A. F. Corwin, W. S. S. Rodgers, and R. Ogarrio, are vice-presidents; A. T. Foster is secretary; and C. E. Woodbridge is treasurer.

Colombia Petroleum Company . . . A. F. Corwin, Chairman of the Board; R. Ogarrio, president; R. F. Baker and G. E. Dorsey, vice-presidents; A. T. Foster is secretary; and C. E. Woodbridge is treasurer.

After leaving the dug-out canoes, one must change to pack mules to carry him to Petrolea camp. Along the way he stops for refreshments at this engineers' camp carved from the jungle.

PRODUCTION DEVELOPMENT

Concession

ments are under way at two points within the area covered by the concession: Petrolea and Rio de Oro.

Unless he takes to the air, the traveller visiting the operations has two major choices of route. One, largely an all-river route in the flood season, leads via the Catatumbo river from Lake Maracaibo. This is the route through which equipment moves to the operations.

Taking the more rapid route of travel, one may fly up the Magdelena river from Baranquilla on the coast to Bogota. An excellent service is maintained by Scadta tri-motored Fords in service, powered with more than the standard horsepower motors.

Or, the traveller may go by plane to Bucaramanga, thence by bus to Cucuta.

If one elects to go by way of Bogota, the interesting capital of Colombia, a treat is in store for him.

A Mountain Road

From Bogota to Cucuta one may travel over the excellently engineered and constructed Bogota-Caracas highway, through magnificent mountain scenery, 600 kilometers on the speedometer of a Colombian car, 375 miles by an American speedometer. At Cucuta, a city of more than 40,000 population, elevation of 1,000 feet, climate hot but dry, will be found the Colombian operations headquarters of the Barco work.

From Cucuta a speedster on the railroad may be taken to Villamizar, where dug-out canoes, propelled by outboard motors, are used up the Zulia river to Santa Maria, which is at the eastern end of the mule trail leading to Petrolea field. Radio telephone from Cucuta to Petrolea and Puerto Barco maintains close communication. Cucuta has an airport, and an amphibian plane can be landed on the river at Petrolea, although

tive. Shut-in production at Petrolea is estimated at 10,000 barrels daily. Probability of several other structures is indicated by geological work on the concession. Three wells have been drilled on Rio de Oro structure near Puerto Barco consisting of one small producer drilled several years ago, one dry hole at 6772 feet drilled this year, and a third well which tested water at 1500 feet and is drilling deeper. Gravity of oil: 40 to 45 deg. Good gasoline content.

Number of Structures Located: **No definite information, but five tracts have been selected to date for tests in the future.**

Geology: **First noted indications of oil on Barco Concession came from numerous seeps.**

Pipe Line Construction: **Terms of concession provide that a pipe line must be built to a Colombian port when production reaches 3000 metric tons daily, or approximately 21,000 to 24,000 barrels. Line must cross jungle country and go over little known mountain pass 4500 to 5000 feet high. Line has not been surveyed, but probably will be in 1937.**

the company at the moment is not operating a plane service to the fields.

Seventeen kilometers (about ten miles) of mule trail lead to rail head . . . rail head of the company owned field road which serves the Petrolea structure. A few more miles and we are at Petrolea camp, field headquarters of the Petrolea structure.

Petrolea Camp

Petrolea camp was founded by Gulf. It is northwest of Cucuta and just immediately south of the boundary between Venezuela and Colombia. The structure is large, with limits yet undefined. Fifteen wells have been drilled at Petrolea since the Gulf started work in 1931. The first blew out at 490 feet and caught fire. Ten of the 15 wells have been productive—five have been dry.

Production at Petrolea is found in the porous zones of the Cozollo formation of Cretaceous age. The drilling is not particularly hard, being about similar to that along the fault line in the Luling area of Texas.

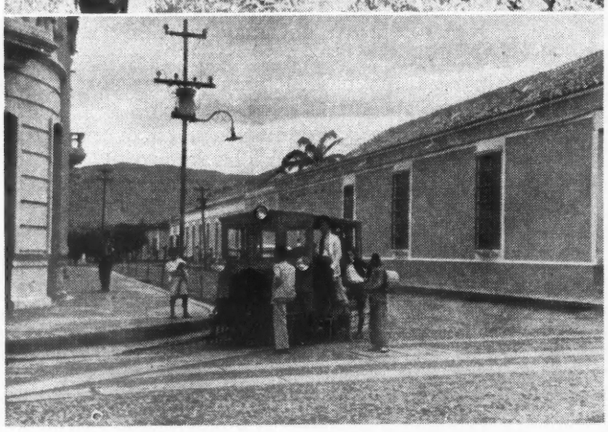
Shallowest producers get production around 500 feet, and the deepest wells are about 1800 feet deep. Above the producing horizon is found a black shale, and porous formations below are saturated with oil. Pressures are normal. Producing formations vary in thickness . . . the shallowest being about 40 to 45 feet in thickness, the second ranging from nothing to 30 feet, and the third and most prolific running about 80 feet in thickness.

Present production of Petrolea is estimated at 10,000 barrels, although shut in at this time. Two rigs are running in the field.

The oil is 40 to 45 gravity—a good gasoline crude with a product showing a fair octane rating. "About like East Texas crude," is the way one person described it. Not a crude likely to upset the market from a lube stock content.

Carved From the Jungle

Petrolea camp has been carved out of the jungle. Some 700 people are employed at this camp and at Puerto Barco, the camp on the Rio de Oro structure. The operating company maintains here a hospital and also fields for raising food, etc. Petrolea has about 300 feet elevation. The days are hot, the nights cool and comfortable. It is rapidly taking on the aspects of an ordinary tropical drilling camp.



In next column: These dug-out canoes, powered with outboard motors, are loaded for the trip up the Zulia river from Villamizar to Santa Maria, at the eastern end of the mule trail. Center: Soogans loaded on mules at Santa Maria, one strikes out on trails cut through the jungle. Bottom: The main line railroad, known locally as the speedster, is ready to leave the thriving city of Cucuta in the direction of the Barco Concession. Below: General Barco's shell still built years ago at Petrolea. Crude oil for this crude refinery came from seepages.

To our many friends

we extend our sincere good wishes for

a Christmas of contentment and good

cheer . . . For the coming year we

wish you prosperity and good health . .

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Three 55,000-barrel steel tanks, near the camp, lend a petroleum air to the site.

But when one proceeds on to Puerto Barco from Petrolea, his trip begins to take on the aspect of an adventure.

The railroad may be used for about five miles to Puerto Reyes, on the Rio Sardinata, which is a tributary of the Rio Tarra, which in turn flows into the Rio Catatumbo, and Catatumbo river flows in turn into Lake Maracaibo. Puerto Reyes is the landing point for supplies.

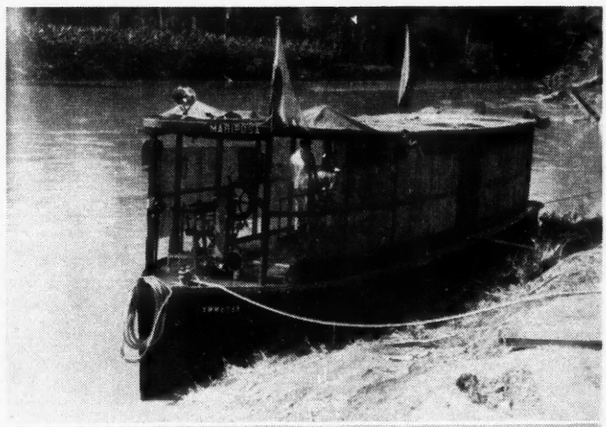
On the River

At Puerto Reyes, where platano plantations are maintained by the company as a food source, the passenger enters a special type of river boat. About 40 feet long, 24-inch draft, and with a beam of 8 to 10 feet, these boats are especially constructed for river work. A 150-horsepower motor transmits energy to a tunnel protected propeller, while heavy wire screen is set around the entire boat as a protection against the arrows of the hostile Motilones. A 16-hour voyage leads between jungle-lined shores. Following the meanders of the river—and, in fact, rivers—one time in Venezuela, another in Colombia, mile after mile of wide river appears before the eye during the rainy season. The Tarra in flood season is from 300 to 400 feet wide, and the Catatumbo is 800 feet wide in flood season. Jungle, Jungle, with only an occasional and rare glimpse of a thatched building in a clearing.

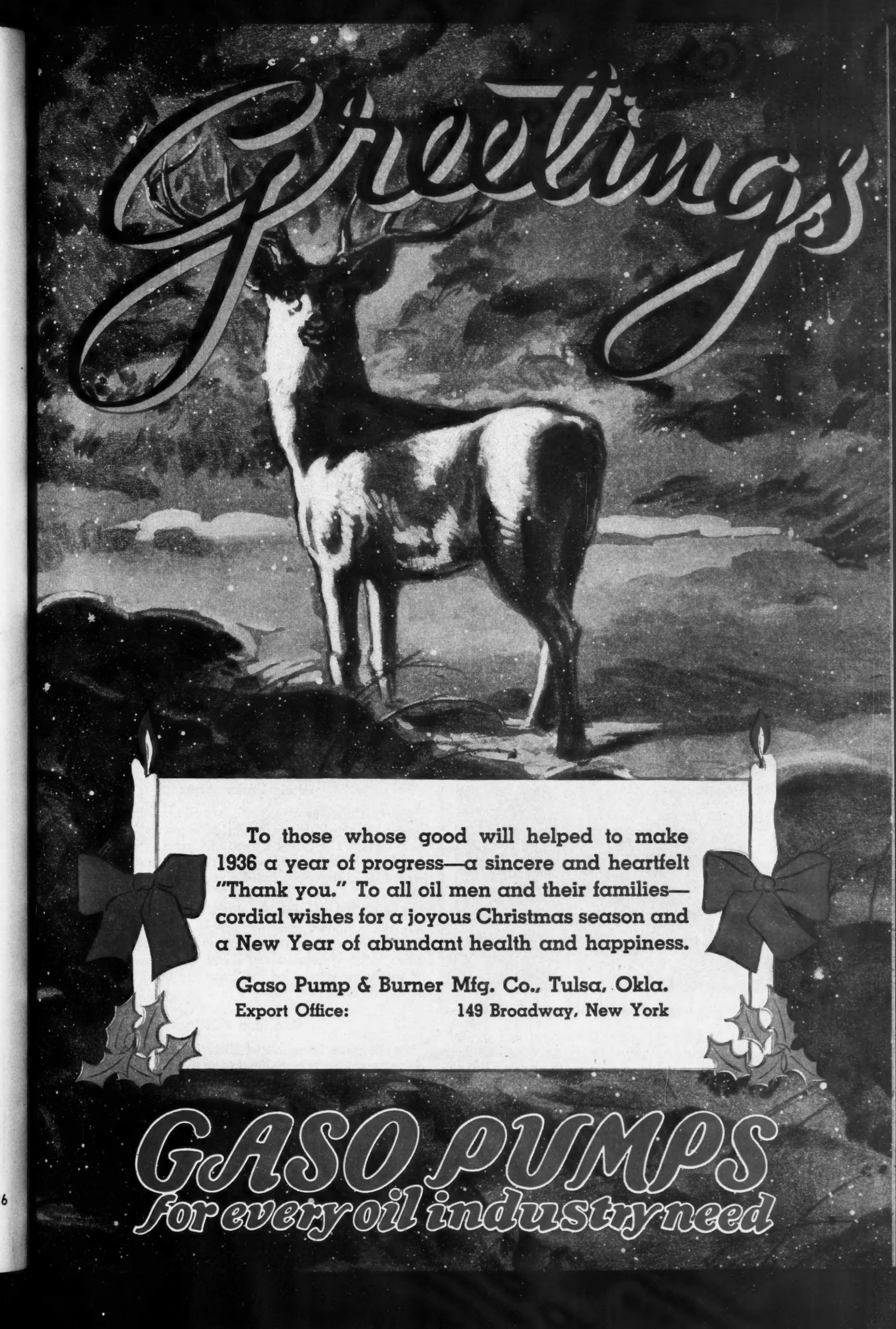
The destination is Puerto Barco, named after the General Barco, whose initial efforts led to development of the Barco Concession.

A Genuine Frontier

And as the passenger steps ashore at Puerto Barco, he steps into a real frontier—one of the outposts of petroleum development. For here he is in the country of the Motilones. Few people have seen a Motilone of this area. True, in the Magdelena valley Catholic missionaries have established contact with the Motilone tribes in that section. But east of the 6000- to 9000-foot ridge of mountains which separates the Barco Concession from the Magdelena valley, no such contact has been established to date.



In next column: Shallow draft supply and passenger launch with arrow-proof screen. Plantation in background grows platano, a starchy type of banana muchly used as a food staple. Center: Table vegetables at Petrolea are grown in a garden set on stilts in oil; ants devour non-indigneous plants there. Bottom: Note papaya trees in this picture of Petrolea camp. Below, left to right: John Sallee, superintendent at Petrolea; D. E. Park, general agent of South American Gulf at Bogota; Howard Quinlan, general agent of Colombian Petroleum Company at Cucuta; Ignacio Uribe, employee of Texas Petroleum Company.


Greetings
To those whose good will helped to make 1936 a year of progress—a sincere and heartfelt "Thank you." To all oil men and their families—cordial wishes for a joyous Christmas season and a New Year of abundant health and happiness.
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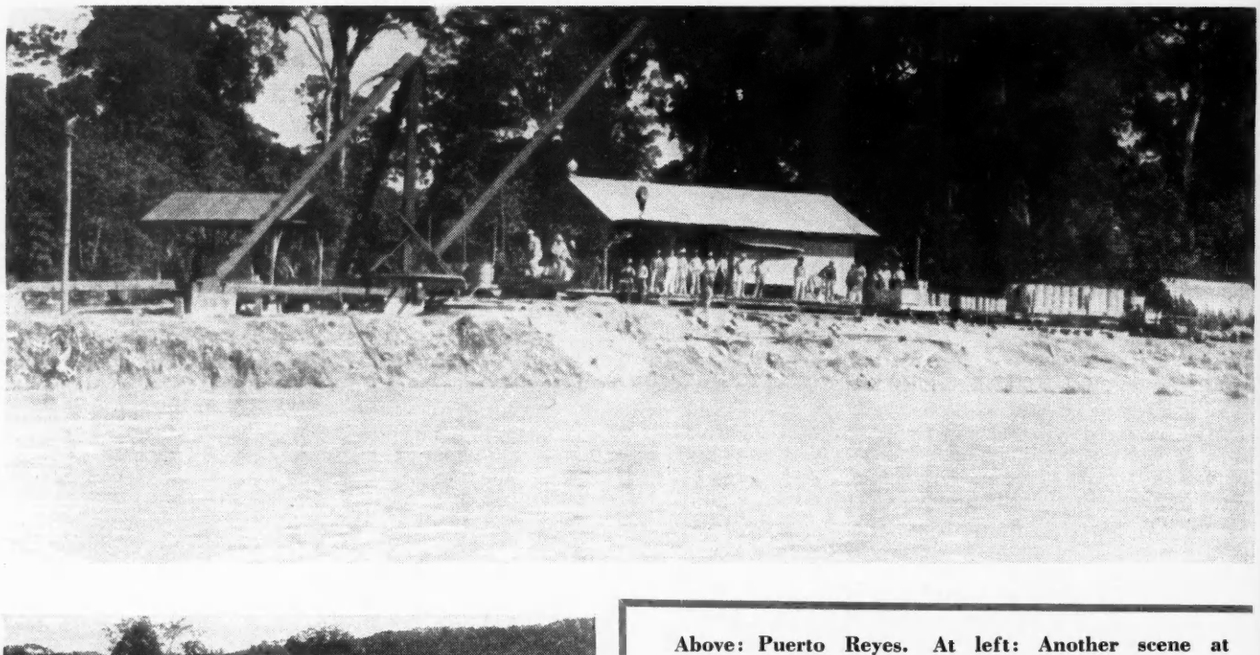
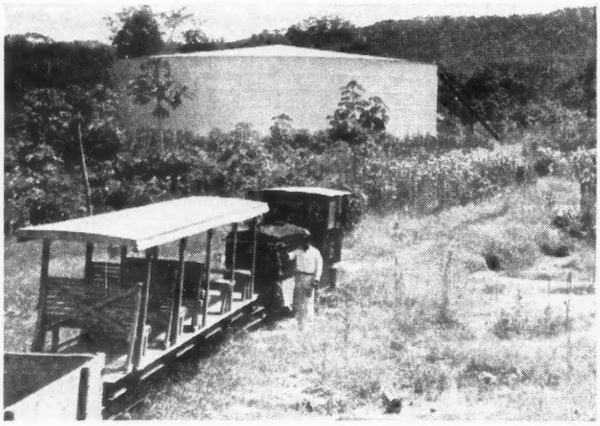
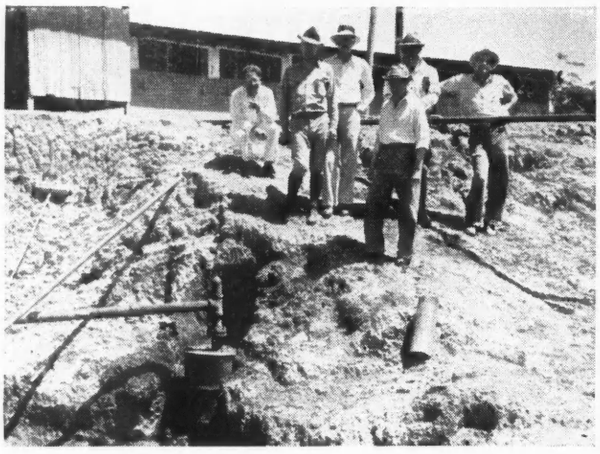






Above: Puerto Reyes. At left: Another scene at Petrolea showing company's railroad train. Below: It was this kind of thing that started development at Barco Concession . . . the gas and oil seeps at Petrolea. This one is 30 feet across. The gasoline drum, set over a vent in the seep, collects enough gas to run the kitchen at Petrolea.

That the Motilones have villages composed of huts is known, because on more than one occasion these primitive villages have been seen from planes. But the inhabitants—no.

Visual evidences of their being are frequent, one such visual evidence being the six-foot arrows they use—that part of the shaft toward the wickedly barbed point being of palm heart—almost as hard as iron.

If the Motilone cultivates ground, evidence of such cultivation has not been found. Fishing and hunting provide food, and while their chief sport seems to be in shooting at civilized people, their rules of sportsmanship are little known. For they operate mostly in darkness, although they have been known to loose a volley of arrows in the day time. They steal canvas and iron—and on one occasion, a few years back, they tumbled a Gulf ditching machine over a cliff, their aversion to things mechanical being reflected in an almost childlike attitude of destruction.

Work Under Arms

Here at Puerto Barco are armed guards, here the driller, the truck driver, et al., wear pistols strapped to their sides. The threat is constant, yet so carefully has the situation been handled that only three men are recorded as having been killed since operations started in 1931.

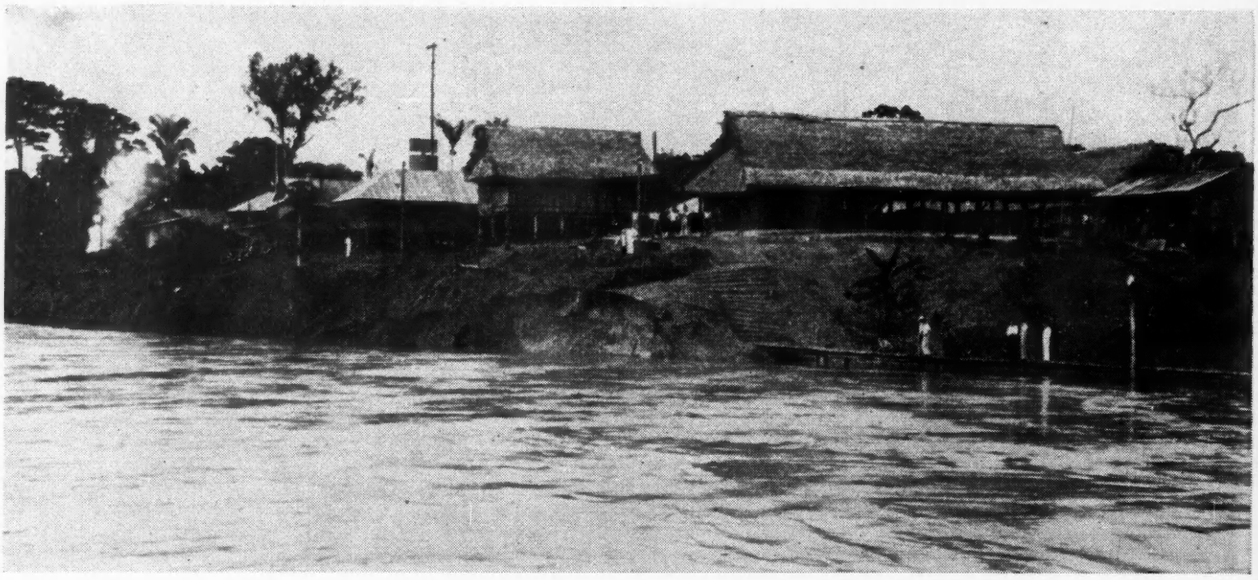
Puerto Barco camp is built with upright posts outside the windows carrying heavy steel screen to keep the Motilones from creeping up and discharging arrows through the open windows. Here the 100 acres cut out of the living jungle for the camp are flood-lighted and patrolled constantly.

One Man Did It

But it must be admitted that the Motilone is more of a threat than an actively destructive agent. His presence demands vigilance. His antipathy to any person other than a fellow tribesman is not new. It dates back almost to the beginning of known South American history. And legend, not necessarily history, records but one instance of a white man being admitted to the Motilone councils.

'Twas the night
before Christmas

FRICK-REID



Above: Puerto Barco. At left: Employes at Puerto Barco who are precautious wear arms for protection against the Motilone Indians. Below: Cottages at Puerto Barco camp. Screens of heavy wire are used as protection against arrows in the event of an attack from the Indians.

Back when Plymouth Rock was just a place where winter storms dashed the North Atlantic against the shore, a party of Spaniards moved westward into what is now the Motilone country. The difficulties of the adventure were almost insurmountable. Every foot of progress through the solid wall of jungle had to be hacked free. Some of the party became discouraged, but one hardy soul elected to remain.

Tradition has it that he became a chief of the Motilones, but no one is advised to depend upon tradition too much these days.

Science to Aid

However, and it is a big "however," necessity of conciliating the Motilones is recognized by the operating companies, and a Swedish anthropologist, who has done some remarkable work in his life among the Indians of northern South America, is engaged in "infiltrating" down to the Motilones, with the idea of showing them ultimately that they will be well treated if they will only discontinue their unpleasant habit of raiding camps and parties. His previous work has been successful, and while it will take a considerable time for him to make the tribe-to-tribe progress which ultimately will introduce him into the Motilones, the work will be well worth while.

New Reserves

In the meantime, drilling operations are screened by arrow-proof screens, and at least one American reverted to medieval days by wearing chain mail armor—possibly holding that armor played a real part in the early Spanish conquests. But it turned out that chain mail is a hot proposition, and the protection was discarded.

But this frontier of the oil industry is interesting from other standpoints than the possibility of a flight of arrows—and the visitor who goes to Puerto Barco with only the thought of savages in mind will miss the significance of the whole thing.

Indians are dangerous—yes—but time will cure that—is curing it, and the big interest at Barco lies in open-

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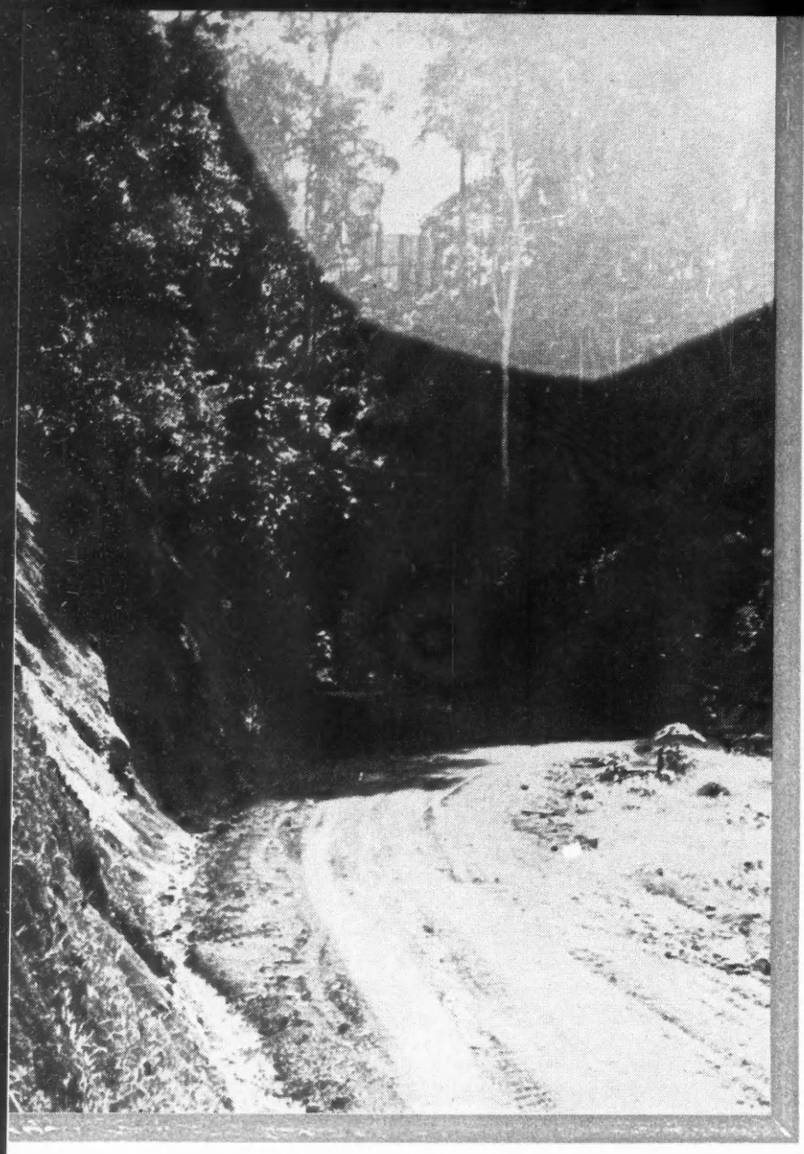


This is the spot where hostile Motilone Indians recently ambushed an oil company truck carrying supplies from Puerto Barco out to the wildcat test on the concession. As the truck was built to withstand an attack, the arrows harmed no one. Below: A group of executives on the Colombian concession; left to right they are: Robert King, geologist; R. F. Baker of New York, vice president of Colombian Petroleum Company, and W. S. Olson, geologist in charge.

ing new reserves of petroleum, extending the petroleum horizon.

The first well in this area was drilled in the 1920's by Doherty interests and was a small well. North of the Rio Catatumbo are the Shell's Colon developments, two producers, probably a part of the same Rio de Oro structure being drilled on the Barco Concession. The third well to be drilled on the Rio de Oro (gold) structure tested water at 1600 feet in November, and is drilling deeper. The second well was a dry hole at 6,772 feet. The structure is about 15 miles long, and is badly faulted. It is thought that the best production will come from around 1500 feet, at which depth well No. 3 was tested.

At Barco the operators are seeking production in the lower part of the Tertiary, or the same sands from which the Colon Development Company is taking production in the Colon Concession across the river.

Contemplated Pipe Line

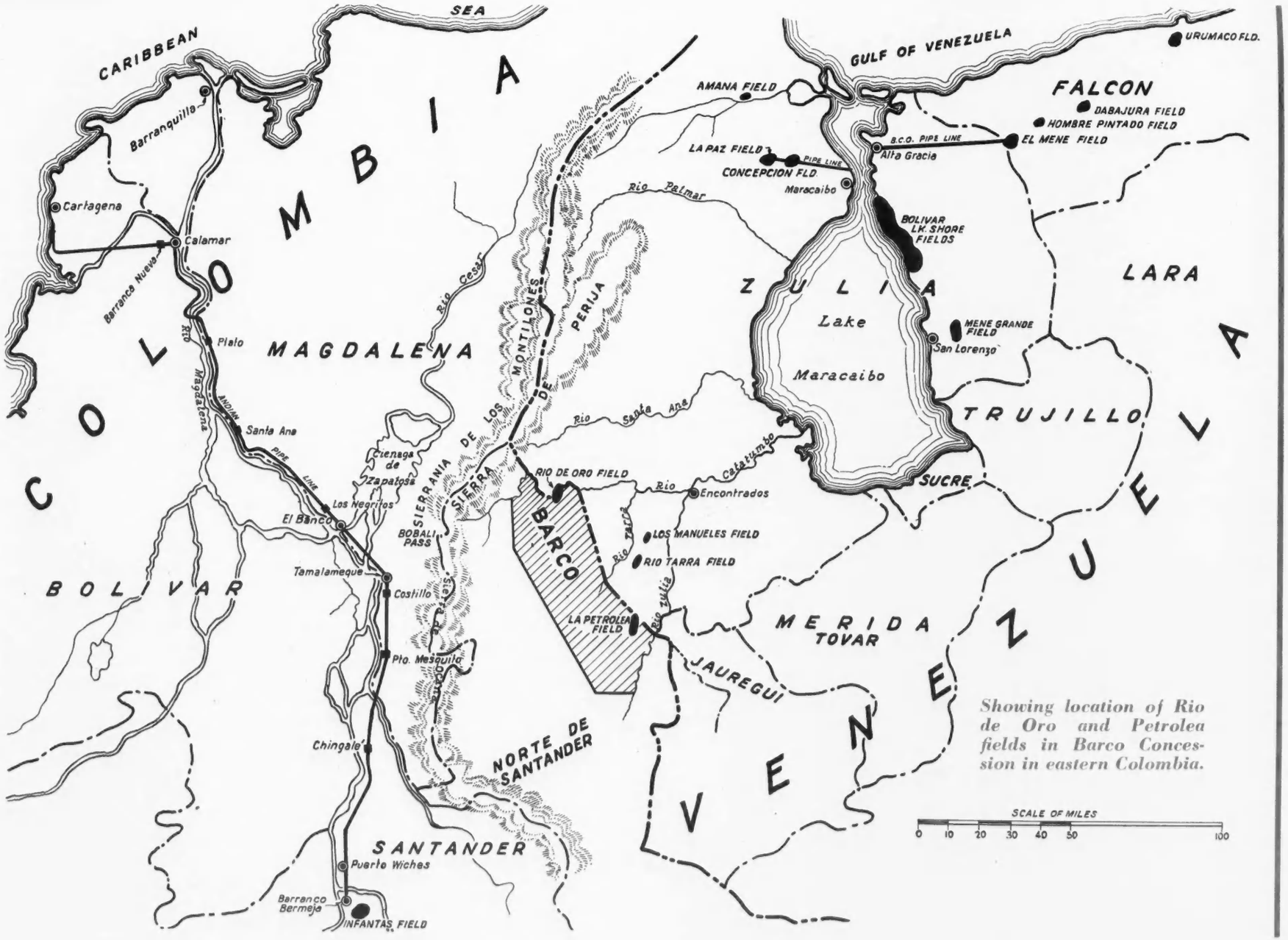
A question which is frequently asked in the States is, "When will the pipe line to the Barco Concession be built, where will it run, how much will it cost?" Some of the answers to these questions are predetermined by the terms of the Barco Concession itself (and it should be remembered that the Barco Concession is not a private grant secured by an oil company, but is actually a part of the laws of Colombia)—answers to the others depend on what the drill determines.

The concession provides that when 3,000 metric tons of crude oil per day has been developed (roughly 21,000 to 24,000 barrels per day) from the concession, the line must be built . . . and it must be built on Colombian soil to a Colombian port. What port the concession does not determine.

The concession also provides for operation of two drilling rigs up to a certain time and then a definite increase in the number of rigs. In 1938, four rigs must be kept in operation.

Drilling is in progress on two structures now, and in the dry season five or six geologist are kept busy, looking for additional structures. The operators have five more years to pick the remaining part of the 200,000 hectares which may, under the law, be a part of the Barco Concession, and 45 more years to develop the properties.

Only about 10,000 barrels a day of production has been proven, all at Petrolea. Naturally, study is being given to the pipe line now, although no surveys have been made. The terminus point has not been settled on—nor will it likely be for some time. Known facts



Showing location of Rio de Oro and Petrolea fields in Barco Concession in eastern Colombia.

This is Rio de Oro 3 of Colombian Petroleum Company on the Barco Concession in Colombia. This wildcat tested water at 1600 feet in November, 1936, and is drilling ahead, attempting to give the operators a more definite knowledge of subsurface conditions in the 15-mile long Rio de Oro structure. Below is a picture of typical homes at Barranquilla, Colombia's chief seaport. The local preferences for modernistic and Spanish architecture blend to make this a beautiful city.

are that the line must go through the Paso de Bobali, which has an altitude of 4500 to 5000 feet. Probably four pipe line stations must be built to pump the oil up over the pass. From there on the sailing will be easy—a 4500- to 5000-foot drop, gravity flow to the seaboard. The cost of the line is problematical . . . an estimate in a recent S E C report indicates $15,000,000—which probably is a top estimate.

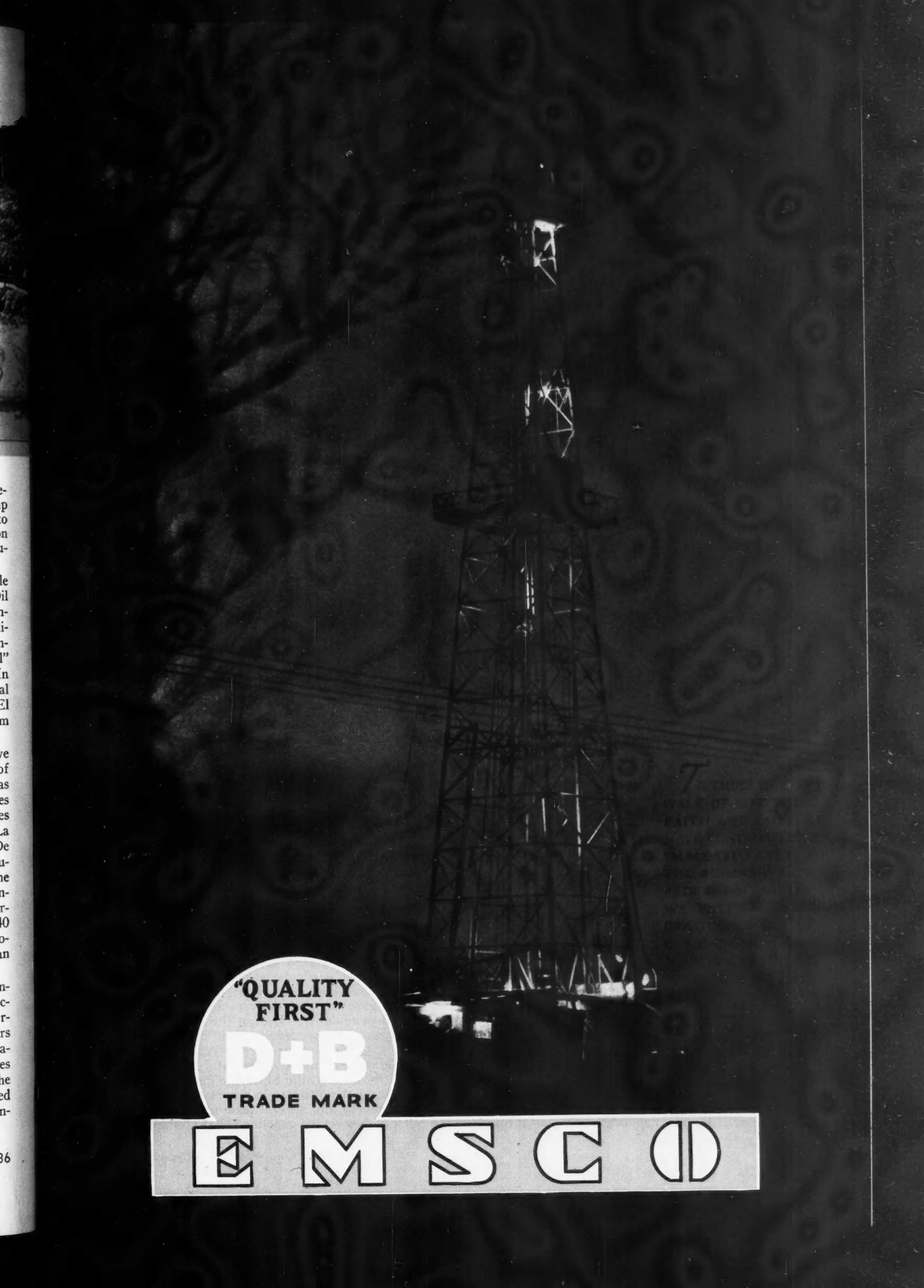
Moving In Materials

Materials moved into Petrolea and to Puerto Barco, which latter place is an accredited port of entry into Colombia on the Rio Tarra, may be moved by water during the rainy season . . . and practically no movement can be made to Petrolea in the dry season. Materials are brought in through Maracaibo and move up the Rio Catatumbo to Puerto Barco. If consigned to Petrolea they move up the Catatumbo to the junction with the Rio Tarra and up the Rio Tarra and its tributary, Rio Sardinata, to Puerto Reyes.

Other operators in Colombia at this time include Tropical Oil Company, a subsidiary of Standard Oil Company of New Jersey; Richmond Petroleum Company, a subsidiary of Standard Oil Company of California, holding considerable acreage; The Texas Company; the recently organized Compania Petroleo "Shell" de Colombia; and Socony-Vacuum de Colombia. In addition to the above listed companies, Andian National Pipe Line Company has a 537-kilometer line from El Centro to Mamonal (Cartagena) on seaboard, from whence oil is exported.

Of the above, Tropical Oil Company has been active on the De Mares Concession for nearly a score of years, having completed the discovery well of Infantas field April 20, 1918. This concession, located 100 miles southwest by south of the Barco Concession, embraces several anticlines, the more important of which are La Cira and Infantas. Less important anticlines on the De Mares are known as La Colorada, La Puerta, La Mugrosa, and El Centro. De Mares Concession is in the Municipality of Barrancabermeja, department of Santander, and starts about 20 kilometers southwest of Barrancabermeja. La Cira field lists three sands: 1540 feet, 1800 feet, and 2300 feet. Infantas has three producing horizons found at depths ranging from less than 1000 feet down to 3300 feet.

In considering the above companies as possible contenders for future prominence in Colombia's production activity, it should be pointed out that other operators have refrained from entering Colombia for years due to the tenor of laws regulating petroleum exploration and exploitation there. However, recent changes in Colombian laws regulating such activities render the country more attractive to the substantially financed wildcatter, and an increase in development is anticipated.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Changing Demands

TO MEET INDUSTRIAL DEMANDS HAVE GREAT INFLUENCE ON CRUDE MARKET

By BRAD MILLS, Associate Editor

THE consumption of crude oil from many fields has been affected by the growing demand for refined petroleum products that must meet exacting specifications. These changes in outside industrial requirements have created a strong demand for certain crude oils while in other fields this trend has unfavorably affected the movement of oil.

The increased demand for refined products that can be profitably made only from a limited number of crude oils has given both producers and refiners cause for worry. This situation particularly applies to aviation gasoline and the best grades of lubricating oil. Stringent manufacturing requirements, higher specifications, and a heavy indicated future demand for these refined products have virtually created a shortage of suitable crude oils.

The principal reasons for shifting crude oil demands in the past have been (1) changes in outside industrial requirements, (2) changes in manufacturing processes within the petroleum industry, and (3) changes in attitude toward a crude oil. The third reason often has applied to crude oils that possessed valuable properties not recognized readily. A rapid analysis of a crude oil during a period of overproduction may fail to indicate latent possibilities of the oil. A subsequent analysis often discloses a quality not suspected originally. Many oils also have remained unpopular for a long period because of prejudicial reasons.

Producers and refiners are searching with an open mind for crudes that offer a hope of solution to the shortage problem. Special treatment of aviation gasoline is required to bring it up to necessary specification, even after it has been manufactured from the most desirable crude oil. The necessity for using only crude oil of a certain type is obvious, since aviation gasoline must be manufactured by straight-run methods. Crude oil that yields the highest octane gasoline on a straight-run basis finds greatest favor.

Although the shortage of crude oil suitable for manufacturing the finest grades of lubricating oil is not so acute in some districts, it is a serious problem in other areas. Many integrated companies find it difficult to obtain a steady supply of crude oil that exactly fits their lubricating oil requirements.

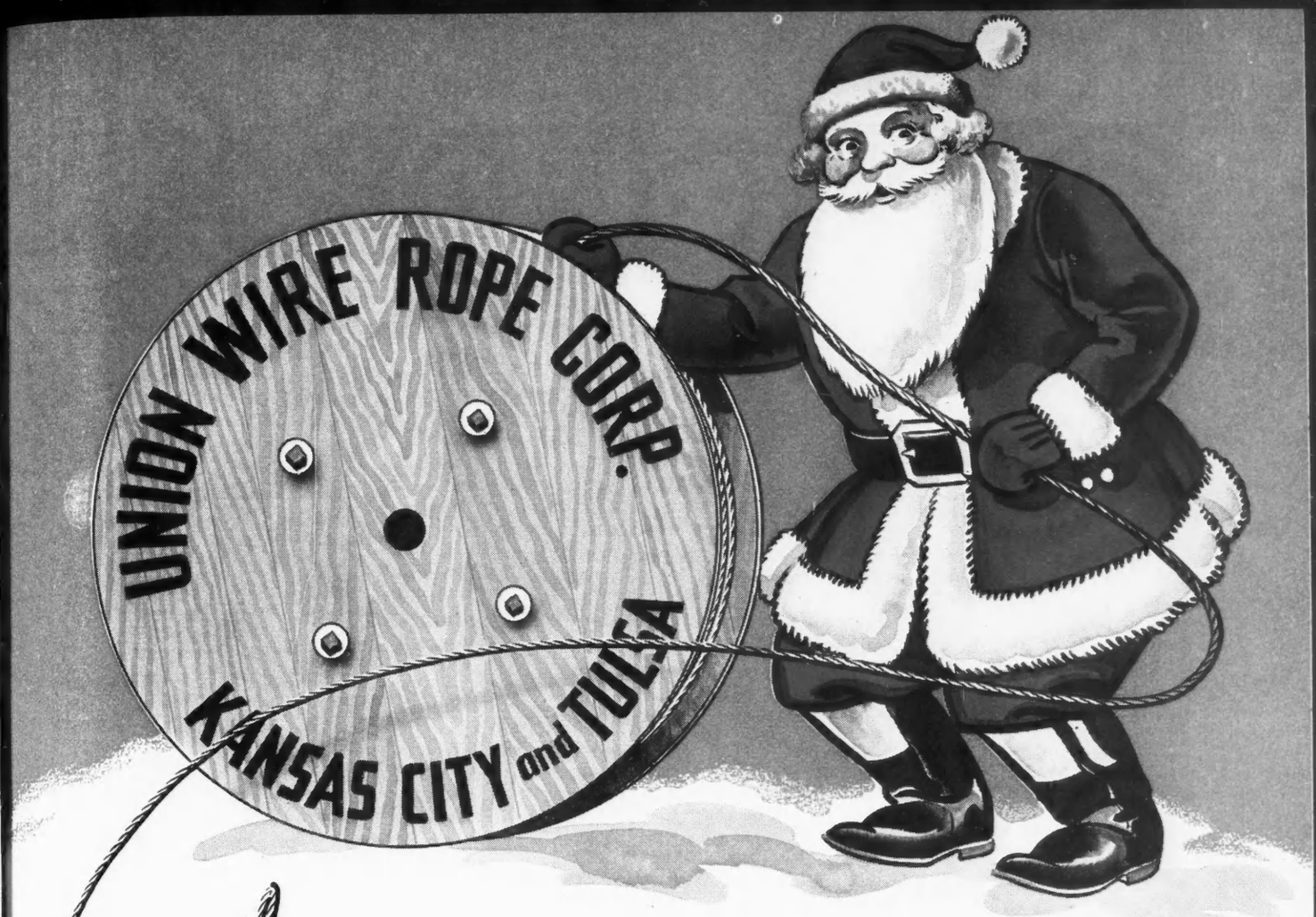
Changes in manufacturing processes within the petroleum industry have done much to relieve the shortage of crude normally used for manufacturing both the better grades of lubricating oil and aviation gasoline. It has not been possible through conventional distillation methods, however, to manufacture finished aviation gasoline in quantities. Expensive treating or re-running is necessary to bring it up to the required specification.

High Octane Quality Needed

Crude oil that is rich in natural aromatic constituents yields gasoline that ultimately meets aviation specifications. Few fields produce oil of this type, and none yields a product that will give aviation gasoline by the ordinary straight-run methods. Even when the most desirable crude oil is used, only the first gasoline off shows an octane number that justifies a hope for an ultimate aviation product. A good crude oil will yield a limited amount of 72 octane gasoline by distillation, while an exceptionally aromatic crude will yield a similar quantity of 74 octane gasoline by the same method. It is true that a few heavy crudes will yield a very small percentage of higher octane gasoline by distillation, but the recovery is so small that they do not enter into the picture as a source of supply. It is necessary to use a crude oil that handles easily and yields a good percentage of gasoline by straight-run methods, since the recovery must justify the effort and expense given to handling the crude oil.

Refiners agree that any good crude oil will yield some gasoline that can be made into aviation gasoline, but the quantity usually is so small and the expense of getting it so high that the entire operation becomes an economic failure. Several fields that yield a good crude oil for making ordinary gasoline can not be considered as a source of supply for aviation gasoline. The straight-run gasoline falls so far short of the correct octane number that efforts to bring up the rating become prohibitive.

The increasing demand for aviation gasoline might have been met with little difficulty, had not the specification been placed so high. Several aviation companies, and particularly the United States government, have been almost merciless in their demands for a gasoline that delivers the ultimate in power and dependability. During the early and intermediate steps in the development of aviation, requirements were not so stringent. When the octane number scale was adopted several years ago as a yardstick for quality, the 84 octane gasoline was accepted as almost the ultimate in power. Some time ago the government and several leading companies demanded a higher octane gasoline. The standard was moved



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up to 87 and 90 on the octane scale, a step that placed many refiners in a dilemma.

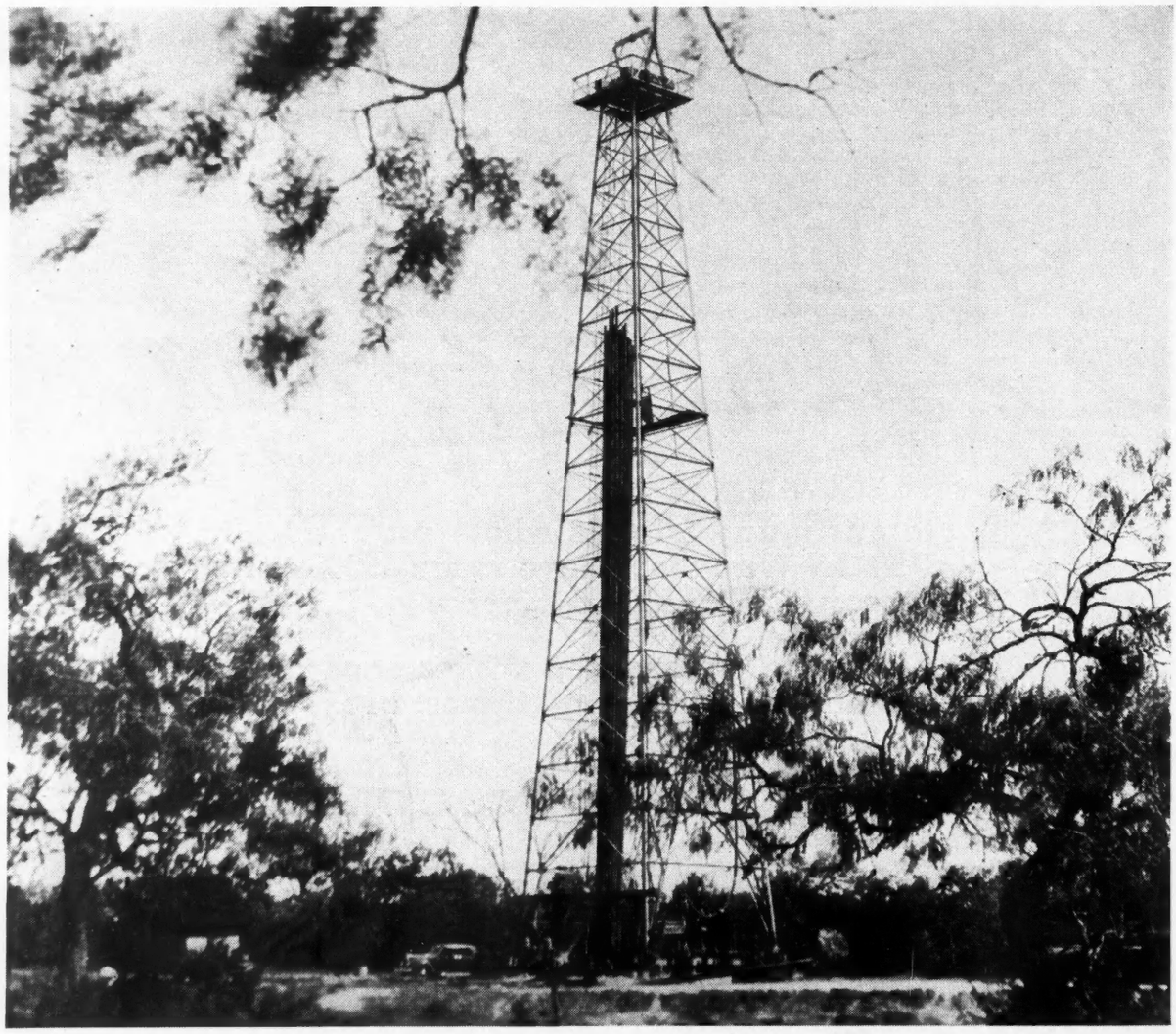
Recently the United States government started using 100-octane aviation gasoline and virtually indicated that such a grade would soon be its standard. Almost immediately the leading aviation companies raised their standard, placing both the producers of certain types of crude oil and refiners at a disadvantage.

Most of the aviation gasoline in the past has been manufactured by the most approved straight-run methods, and treated "up" to aviation specifications by the addition of chemicals or special blends. Heavy treating has been frowned upon by airplane operators, since they persist in the claim that such handling of gasoline after it leaves the still tends to reduce its purity.

Gum Must Be Eliminated

Refiners have for years attempted to educate aviation companies in the use of cracked gasoline, but they have failed in their main objective. Gum and other impurities that might cause fouling are feared greatly by all users of airplanes. It is largely because of the fear of gum that cracked gasoline has not been accepted as a suitable product for aviation purposes. Cracked gasoline was used for a short time by a few large aviation companies, but a number of engine failures were attributed to fouling and use of this product declined. It is believed that cracked gasoline can be used with safety by airplane motors, but a great amount of missionary work will be required to break down the old prejudice. One of the largest integrated companies in the United States manufactured a cracked gasoline for aviation purposes, but it never was appreciated properly and the company later was forced to supply at least a large percentage of straight-run gasoline.

Special refining processes are being developed to manufacture aviation gasoline that will meet any specification. Several of these processes are in the experimental stage, but others are turning out gasoline in commercial quantities. Several refiners have been able to make small quantities of 100-octane gasoline, while at Baton Rouge, Louisiana, a 100-octane gasoline is being made and marketed in comparatively large quantities. Until recently the manu-



An attractive surface setting line does not always indicate a high quality oil. The view shows a Bee County, Texas, discovery well that did produce a fair quality of oil, however.

Greetings and Best Wishes from Oil Center Tool Company

facture of 100-octane gasoline was prohibitive, and even now it probably costs from two to four times as much as ordinary aviation gasoline to manufacture. All manufacturing processes are attempting to match or excel the old straight-run processes in purity of product. Some of the new processes now in an experimental stage use the best straight-run gasoline as a base, and step up the quality by rehandling the original product.

The addition of certain heavy chemicals to bring 74 octane, straight-run gasoline up to an 84 and 87 octane number is not approved necessarily by the simon-pure aviation enthusiasts, but since they demand a straight-run product that can not be manufactured to specification without treatment, they are forced to accept the treated or blended gasoline.

Most large refiners continue to meet demands by using a small percentage of the first gasoline off as a base product. This practice necessarily requires the running of a large amount of crude oil to obtain an appreciable quantity of select gasoline. The remainder of the gasoline falling within the usual specifications obviously can be utilized as motor fuel, and no actual waste ensues. In many instances it is possible to use only two or three percent of the total gasoline off as a base for aviation gasoline.

The increased use of a few select crudes that yield a suitable aviation gasoline base has worked to the disadvantage of other crudes that might be used to meet less exacting requirements. Due to the use of only a small part of the first gasoline off, the remaining gasoline falling in the accepted boiling range is converted into motor fuel, or is otherwise used. Such utilization reduces the demand for crudes that ordinarily would be used for the lower grades of gasoline. Several crudes yield a high percentage of low octane gasoline by distillation, yet they must be sidetracked when aviation gasoline is a requirement.

Along the Gulf Coast and in other districts it is not unusual to blend two or three of the most desirable crudes in an effort to obtain the full value from the aromatic constituents that are necessary in the manufacture of good aviation gasoline. A good example of this practice is the blending of Conroe, Raccoon Bend and Sugarland crudes, a combination that can not be excelled in this district.

The use of Sugarland, Conroe and Raccoon Bend crudes as a blend will give a limited amount of 73-74 octane gasoline by distillation. A high percentage of the remaining gasoline can be used for other purposes. The increased demand for aviation gasoline has strengthened the position of producers in these fields. All these crudes are rich in the natural aromatic constituents that account for the best gasoline, although they fall short of other requirements.

As the result of the increased demand for aviation gasoline, refiners have attempted to assure themselves of a future supply of suitable crude oil. This strong and constructive movement does not indicate a shortage of crude oil in its full sense, yet it does lead to a strong demand for all available oil of a certain type. Ordinary gasoline requirements in California, the Mid-Continent, the East and along the Gulf Coast do not enter into the aviation gasoline problem. The situation in all major producing districts is similar, since it is about equally difficult to obtain crude oil of a certain type.

Refiners estimate their crude demands several months in advance, and attempt to hedge against any contingency that may arise. One of their greatest worries for 1937 lies in the increased demand for aviation gasoline. Both the sources of supply and manufacturing processes are being considered as the solution to the problem. The demand for crude oil from several fields already has been affected favorably by anticipated refinery runs for 1937. Other crude oils have been unfavorably affected by a trend that has become definite. Adjustments in requirements for other products have helped to fill the deficit, however.

The demand for higher quality aviation gasoline has been prompted by the necessity for a high net pay load in air travel. Airplane manufacturers have increased the power rating of motors and in a number of instances have reduced the weight. The full power requirements can be met only by use of a superior motor fuel. At Brownsville, Texas, a heavily loaded plane crashed immediately after the take-off. An investigation revealed that the motor fuel used was below the standard specified for flying a maximum load.

Waxy crudes make the best cracking stocks, and for this reason users of aviation gasoline frown on the use of a cracked product. Although dewaxing has been improved, it is not readily accepted as a full corrective measure.

Selecting Lubricating Stocks

Recent changes in manufacturing methods and market demands have affected the movement of crude oil destined to make lubricating stock. Although the change has not been so severe as with aviation gasoline, a shortage of certain types of crude oil does exist. At least one new manufacturing process has shown a preference for ordinary crudes, but others can convert only certain types of crudes into the desired grade of lubricating oil.

Integrated companies are becoming increasingly finicky in their selection of crudes for lubricating stock. A large California company for several years manufactured its highest grade lubricating oil only from one type of Coalinga crude. The demand for this crude oil for all other purposes was far from keen at the time. Some of the finest lubricating oils produced in the United States are made from Pennsylvania, Ranger and Reagan, Texas, and Burbank, Oklahoma, crudes. The principal basis of demand has been their desirability for this purpose, and as the supply has dwindled other sources of supply have been found.

A thorough search for crude oil that yields the best grades of lubricating oil now is under way, and producers in many fields are profiting by an increased demand that has been occasioned by economic requirements and changes in manufacturing methods within the petroleum industry.

Lubricating oil specifications have changed almost as much as aviation gasoline specifications. Higher speed motors and industrial machinery demand a finer lubricating oil than was manufactured for the needs of 15 years ago. A small amount of desirable lubricating oil can be obtained from many crudes, but a high percentage of the most desirable type is found only in a few crudes.

Theoretically, the ideal crude is one that contains a high percentage of high-octane gasoline, a liberal cut of good lubricating stock, no sulfur and no wax. The perfect crude does not exist, however, and the refiner is forced to purchase a crude with one or more objectionable properties, to obtain a raw product that yields the refined products he needs.

Greetings

FROM THE

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Petrographic and Physical Characteristics

OF SANDS FROM SEVEN GULF COAST PRODUCING HORIZONS

By M. T. HALBOUTY,
Chief Geologist and Petroleum Engineer,
Glenn H. McCarthy, Inc., Houston, Texas

PART V

Mineral Study Results

IN THE study of the light minerals no attempt was made to determine the feldspars. The other light minerals were of such nature as to be more important in the accumulation of any diagnostic value in the correlation of the formation or sands and were accordingly recorded in table form with the heavy minerals. All the sands were definitely "quartz" sands, ie., quartz was the predominating mineral whereas the other minerals constituted a very small percentage of the entire sample. In every case the quartz minerals were abundant in every sample. Leucoxene was also considered to be "abundant" in every sample, but not near as abundant as quartz, as the quartz grains would be 50 percent of the sample or more, while the leucoxene grains were from 20 to 50 percent of the concentrate. In many instances the association of the opaque minerals with the numerous quartz grains gave the sample a distinct "salt and pepper" characteristic. This "salt and pepper" characteristic was very prominent in the Frio sands and fairly prominent in the *Heterostegina* sands. In sands of the other zones, this characteristic was sparsely determinable to the naked eye.

In all the geologic zones, the sands contained minerals which were rather similar, if not wholly so, however, the quantity of a particular mineral would vary from one zone to the other.

In order to obtain a clearer conception of the final mineral results a brief petrographic outline of each mineral recorded is given in the following paragraphs:

Quartz is pure silica with the chemical formula of $Si\ O_2$ and a specific gravity of 2.65, and is regarded as the commonest of all minerals, not only in sedimentary rocks, but also in igneous and metamorphic as well. In the study of mineralogy and petrology, it has been observed that the presence of quartz in all rocks is to be expected. In the study of these sands, this mineral was indeed "very abundant" which afforded an opportunity to study a large number of grains for peculiar characteristics. The mineral belongs in the *hexagonal* system and contains such poor cleavage that it is regarded to not have any. The grains were of two types, phanerocrystalline and cryptocrystalline. The phanerocrystalline variety was the most abundant of the two and minute dust-like inclusions were noticeable in this type. The cryptocrystalline grains were very prominent in the microscopic field and in this variety the grains were rather dark and hazy looking as if distorted. In both varieties wavy extinction was noticed in a number of grains which denotes *strain* that had probably occurred to the grains while present in the parent rock, whether igneous, sedimentary or metamorphic. The majority of the grains from all samples were smooth and very lusterous which omitted sparkling reflected light to the objective. Some grains had a distinct anomalous optic angle *2E,* and as high as *25°* in some cases. No diagnostic evidence was determined from the study of the quartz grains from a petrographic viewpoint. In all samples the grains had relatively the same characteristics and if any peculiar feature such as strain was noted in one geologic zone, it would also be found in samples of other zones. The abundance of the mineral in the light concentrate was also of practically the same percentage in all samples. The many inclusions dotting the grains were also common in all the sands. Therefore, it was futile to obtain any correlative diagnostic value from the petrographic study of the *quartz* from these sands from seven different zones in the Texas-Louisiana Gulf Coastal Region.

Leucoxene is a white alteration product of ilmenite and chemically is known to be an *amorphous hydrous titanium dioxid.* This mineral was rather abundant in all of the sands and is not considered to be of correlative value in this study. The identification of the mineral was rather easy, being closely associated with il-

A STUDY of the petrographic and physical characteristics of sands in the Gulf Coast region of Texas and Louisiana conducted for the purpose of determining whether or not sands of certain geologic zones and formations may be distinguished as "that of this" zone by this means.

Part 1 appeared in THE OIL WEEKLY, November 23; Part 2, November 30; Part 3, December 7; Part 4, December 14; and Part 6 will appear next week.

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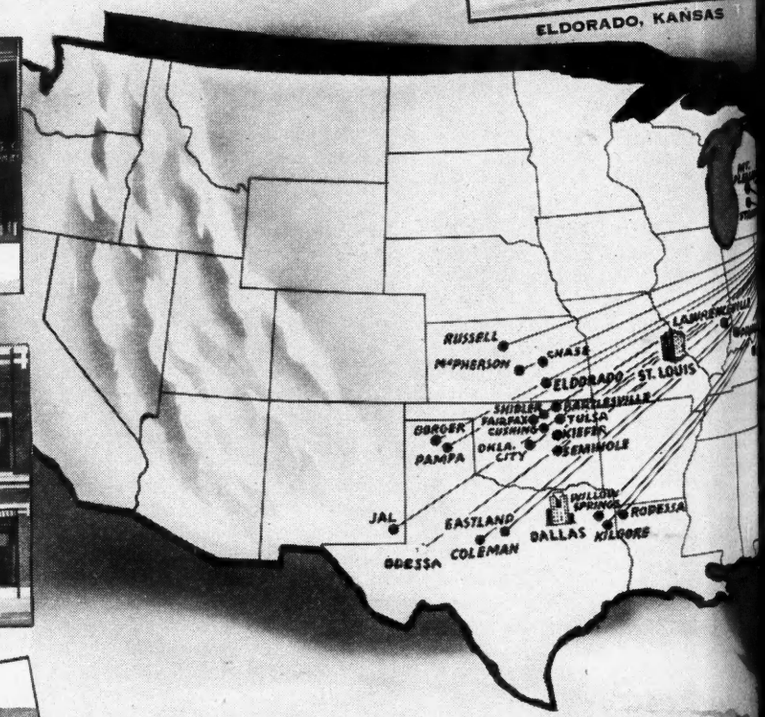

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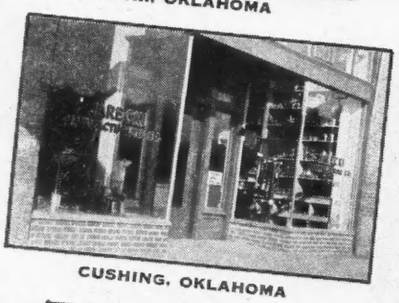

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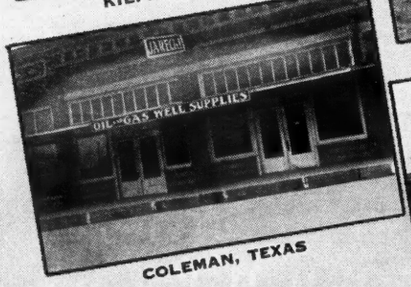

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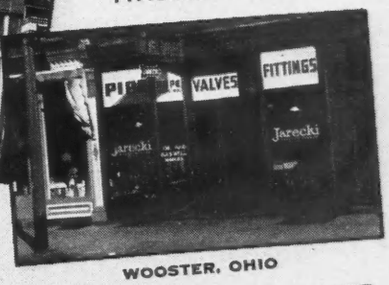

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menite. The mineral is placed in the *hexagonal* system and easily recognized petrographically.

Magnetite is an opaque mineral having a definite metallic lustre in reflected light and which vary in color from dark gray to iron-black. The chemical formula for the mineral is $Fe_3\ O_4$, and the specific gravity is 5.2. The mineral, if abundant in a sample, can easily be segregated from the others because of its magnetic property, and by passing a small horseshoe magnet over the grains, the mineral can be picked up and sorted. The mineral belongs or rather crystallizes in the *isometric* system and the common crystal form is the *octahedron,* sections of which are triangular, squares, and rhombs. The appearance of the mineral in small dark metallic-looking particles clearly distinguishes it from the other common minerals. Magnetite was found to be "common" in all the zones except the Frio. The sands from the Frio formation contained enough of the mineral to classify the relative amount as "abundant." Whether such data are of any value for correlative purposes would depend on further research on many more samples.

TABLE 4

Composite Table of Minerals from the *Upper MDv Zone Sands:* Lower Miocene

Light Mineral Concentrate=Large
Heavy Mineral Concentrate=Medium

Mineral	Relative Amount	Mineral	Relative Amount
Quartz	Very Abundant	Rutile	Rare
Leucoxene	Abundant	Muscovite	Rare
Magnetite	Common	Biotite	Rare
Ilmenite	Common	Pyrite	Common
Zircon	Rare	Chalcedony	Common
Tourmaline	Rare	Staurolite	Rare

Ilmenite is also an opaque mineral having a black metallic luster in reflected light with an iron-black color which is sometimes tainted with a brownish-red tinge. The chemical composition of the mineral is $Fe\ Ti\ O_3$, and with a specific gravity ranging from 4.5 to 5. The mineral crystallizes in the *hexagonal* system, and can easily be mistaken for either hematite or magnetite. Ilmenite was "abundant" to "common" in the Frio sands and in the other samples the mineral was from "rare" to "common." It was noted that whenever the sample of sand had a definite "salt and pepper" characteristic, the mineral would be in the most abundance. The mineral was sparsely present in the Cockfield and Upper Saline Bayou Sands.

Zircon is easily identified with the microscope as it forms highly refractive tetragonal crystals consisting of a prism capped with a pyramid at either end. The color of the mineral is also a marked distinguishing feature. The mineral is either colorless, with prominent variations of color from brown to pink to red. When the mineral is of the dark variation in color, it is easily distinguished even with the binocular miscroscope. The chemical composition of the mineral is $Zr\ Si\ O_4$, and has a specific gravity 4.0 to 4.7. Zircon crystallizes in the *tetragonal* system with no cleavage. The mineral was found in all the sands, however, not consistent in the relative amounts from one sand to the other. In the group of samples from any geologic zone the mineral would vary from "rare" to "common" and no definite correlation criterion could be established. The petrographic characteristics and modes of occurrence would be the same throughout so no special petrographic feature could be ascertainebd in any zone.

Tourmaline is a non-uniform colored mineral with the color ranging, with variations, from light brown to almost black. All of these color varieties are pleochroic with the greater absorption available when the length of the crystal is normal to the vibration plane of the lower nicol. Tourmaline occurs in three distinct kinds of minerals: *schorlite* which is the common black iron-bearing mineral; *elbaite* which is the pink, green, or blue alkali tourmaline; and *dravite* which is the brown magnesium tourmaline. Therefore, the chemical composition of the mineral is written as $R^1_9\ AL_3\ B_2\ (OH)_2\ Si_4\ O_{19}$, where R^1 equals *Na, Li* Fe_2, *Mg.* The mineral crystallizes in the *rhombohedral* division of the *hexagonal* system with cleavage being absent and has a specific gravity of 3.1 to 3.2. The mineral was found in every zone except in the Frio. In the other zones the mineral was "rare". Only importance that could be attributed to this mineral in this study, is its absence in the Frio sands.

Rutile is a titanium mineral and the grains found in the sands varied in color from reddish-brown to yellow. The relief is very high on this mineral and has an adamantine luster by reflected light. The color and the high relief are the most distinguishing features of this mineral. Rutile has a chemical composition of $Ti\ O_2$ and crystallizes in the *tetragonal* system; the specific gravity of the mineral is 4.2 to 4.3. The mineral was found in every sample and in each case was "rare." No distinguishing correlative value could be established from the study of this mineral.

Muscovite was found to occur in thin tabular crystals and scaly aggregates with the cleavage in one direction (*001*) very perfect. Twinning was fairly common and was based according to the mica law [twin-plane = [*110*] *and composition face*=(*001*)]. The mineral has a chemical composition of $H_2,\ K\ AL_3\ (Si\ O_4)_3$ and a specific gravity of 2.76 to 3.10. The mineral crystallizes in the *Monoclinic* system and as stated above, the cleavage is perfect in a direction parallel to the base. The flat thin sheets that were found in the samples were transparent and flexible. *Muscovite* was found to be "rare" in all the sands except those of the Cockfield and Upper Saline Bayou Zones where the mineral was very "common". This feature alone stood out very plainly even to the naked eye, and can be ascertained as being of correlative value in this study.

TABLE 5

Composite Table of Minerals from the *Lower MDv Zone Sands:* Lower Miocene

Light Mineral Concentrate=Large
Heavy Mineral Concentrate=Medium

Mineral	Relative Amount	Mineral	Relative Amount
Quartz	Very Abundant	Muscovite	Rare
Leucoxene	Abundant	Biotite	Rare
Magnetite	Common	Cyanite	Rare
Ilmenite	Common	Pyrite	Common
Zircon	Common	Chalcedony	Common
Tourmaline	Rare	Glauconite	Rare
Rutile	Rare	Staurolite	Rare

Biotite, like Muscovite, is one of the micas and like its sister mineral, it also has cleavage which is perfect in one direction. The forms were found as tabular crystals and lamellar aggregates with colors varying between brown to green. Strong pleochroism is evident. Sections parallel to the orientation [*001*], including

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cleavage flakes, give a negative biaxial figure with a very small axial angle. The chemical composition of biotite is $(H, K)_2\ (Mg, Fe)_2\ Al_2\ (Si\ O_4)_3$ and the specific gravity of the mineral is 2.8 to 3.2. The mineral crystallizes in the *monoclinic* system. Biotite was not found in all of the geologic zones represented, however, the extent of its occurrence is not indicative of correlative value. Its presence was neither consistent nor prominent in any group of sands which might afford any criterion for basic correlative conclusions.

Cyanite is a transparent to translucent mineral ranging in colors from colorless to pure blue. The most distinguishing feature of the mineral is the extinction angle of 30° together with the biaxial interference figure. The chemical composition of cyanite is $Al_2\ Si\ O_5$; has a specific gravity from 3.56 to 3.67 and crystallizes in the *triclinic* system. The mineral was sparsely present in samples when found, and was not in all of the sand groups. Even though the relative amount found in any sample was classified as "rare," the Cockfield and Upper Saline Bayou zones sands contained more of the mineral than any other zone. In all sand samples from these two last zones, the mineral was found to be present. In other zones the mineral would be found in one sample and absent in others, and in four zones, it was not found at all.

Pyrite is one of those minerals that is "expected" to be present in Gulf Coast geologic sections. In every zone and sand sample the mineral was found. The mineral has a distinct brass color which shows a metallic lustre in reflected light, which easily distinguishes it from other minerals. The mineral is distinctly opaque and was found to occur in veinlets, grains, and fairly large compact masses and aggregates. As the mineral crystallizes in the *isometric* system, euhedral crystals of pyrite were found to be common with square, triangular, or rectangular sections. No cleavage was noted, however, the relief was high due to the mineral's hardness which is from 6 to 6.5. The chemical composition of pyrite is $Fe\ S_2$ with iron (Fe)=46.6 and sulphur (S_2) = 53.4. The specific gravity of the mineral is 5.0. Due to its widespread occurrence, no correlative value was ascertained from its study.

TABLE 6

Composite Table of Minerals from the *Discorbis Zone Sands:* Middle Oligocene

Light Mineral Concentrate=Large
Heavy Mineral Concentrate=Medium

Mineral	Relative Amount	Mineral	Relative Amount
Quartz	Very Abundant	Rutile	Rare
Leucoxene	Abundant	Muscovite	Rare
Magnetite	Abundant	Pyrite	Common
Ilmenite	Common	Chalcedony	Common
Zircon	Rare	Glauconite	Rare
Tourmaline	Rare	Calcite	Rare
		Staurolite	Rare

Chalcedony is a secondary mineral of silica and was found to occur in all of the samples in association with quartz. The forms of this mineral varied from amygdoloidal, mosaic, banded and as aggregates. The chemical composition of the mineral is $Si\ O_2$ and has a specific gravity of 2.59 to 2.64. The mineral has an *aggregate* structure with optical properties very close to those of quartz. The mineral was "common" in every sample.

Glauconite is a green to yellowish-green mineral which was found to occur in grains or pellets which are in part aggregates of minute crystals and in part single crystals. The mineral is pleochroic from yellow to green and crystallizes in the *monoclinic* (?) system. The chemical composition is $KMg(Fe, Al)\ (Si\ O_3)_6\ 3H_2O$ and has a specific gravity of 2.8 to 3.2. The grains were scattered in the upper zones, but in the Cockfield and Upper Saline Bayou zones, glauconite was "abundant" to "common." The grains were well developed and large in these two zones whereas in the upper zones, the grains were small, chipped or broken. Such observations are considered as criteria for correlation.

Calcite was found commonly as aggregates and in spherulitic forms. Some of the specimens were white in color, however, due to the presence of impurities the colors ranged from yellowish to reddish caused from iron oxides and from gray to black due to organic matter. A number of small grains were crystallized and the luster of the crystallized calcite is vitreous and pearly, whereas the larger aggregate forms are dull. Calcite crystallizes in the *hexagonal* system and has a very perfect rhombohedral cleavage. The chemical composition of the mineral is $Ca\ CO_3$, and the specific gravity is 2.71. The mineral was found in only the Middle Oligocene formation sands, i.e., in the *Discorbis, Heterostegina* and *Marginulina* zones. In no other sands of any other geologic age was the mineral found. In the *Discorbis* zone the mineral was "rare," in the *Heterostegina* zone the mineral was "common" and in the *Marginulina* zone it was found to be "rare." The *Heterostegina* zone is one that is very calcareous with calcareous shales and hard limestone ledges, and it is not surprising that calcite was found to be more abundant in that zone than in the others. Even though other zones have calcareous shales and lime, the mineral *calcite* might not be present in the sands in such crystallized forms as to be detected by the petrographic microscope. The mineral occurring only in the Middle Oligocene zones is of sufficient importance to form a criterion for correlative value.

TABLE 7

Composite Table of Minerals from the *Heterostegina Zone Sands:* Middle Oligocene

Light Concentrate=Large
Heavy Concentrate=Large

Mineral	Relative Amount	Mineral	Relative Amount
Quartz	Very Abundant	Biotite	Rare
Leucoxene	Abundant	Cyanite	Rare
Magnetite	Common	Pyrite	Common
Ilmenite	Common	Chalcedony	Common
Zircon	Common	Glauconite	Common
Tourmaline	Rare	Calcite	Common
Rutile	Rare	Staurolite	Rare
Muscovite	Rare		

Garnet was found as small polygonal grains with numerous inclusions. The mineral crystallizes in the *isometric* system in the simple form of the rhombic dodecahedron or in the trapezohedron, however, in the grains studied the faces were not well developed and only faint traces of corners were observed. The few grains found were pale reddish in color. The chemical composition of the mineral is $R^1_3\ AL_2\ (Si\ O_4)_3$, where $R^1 = Ca_3, Mg_3, Fe_3$, or $Ca_3\ Fe_2$, the Fe_2 replacing Al_2 in this case. The specific gravity of garnet is from 3.55 to 4.2. This mineral was found only in the Cockfield and Upper Saline Bayou sands, and very rarely in each case. The mineral was not wholly consistent in all the

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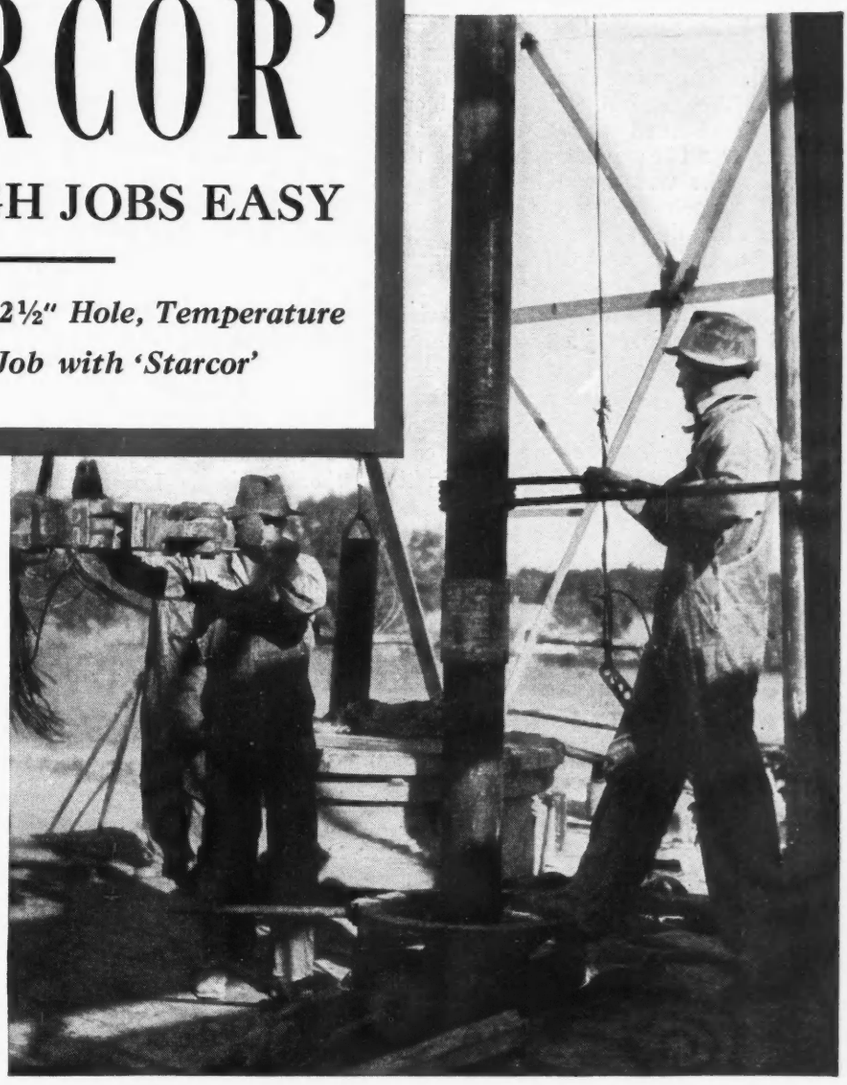

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samples from these two zones, but enough to conclude that the mineral affords a definite criterion for correlative purposes.

Titanite is a neutral colored mineral and the grains that were found were very irregular and characterized by the birefringence, dispersion, and rhombic cross sections of the mineral. The mineral crystallizes in the *monoclinic* system and the chemical composition is $Ca\,Ti\,Si\,O_5$. The specific gravity of the mineral is 4.3 (?). *Titanite* was found in only the last three zones studied, namely the Frio, Cockfield and Upper Saline Bayou. The mineral was "rare" in each case. The presence of the mineral in only three zones is of correlative importance.

Staurolite was found as a yellowish-brown mineral dotted by numerous inclusions of quartz. Pleochroism is very prominent in this mineral, and the light transmitted through thin splinters of the mineral appears almost blood-red. The grains were rather long and slender and several specimens were compound twinned crystals. The mineral crystallizes in the *orthorhombic* system. The chemical composition of the mineral is $Fe\,(OH)_2\,(Al_2\,Si\,O_5)_2$, and the specific gravity is 3.75. The mineral was found as "rare" in all the sands and affords no correlative value.

Chalcopyrite is an opaque, brass colored mineral which shows a metallic luster in reflected light and resembles pyrite, however, chalcopyrite is a deeper yellow. The chemical composition of the mineral is $Cu\,Fe\,S_2$ and the specific gravity is 4.1 to 4.3. The mineral crystallizes in the *tetragonal* system. The mineral was only found in several samples of sand from the Cockfield zone.

The accompanying tables show the minerals found in each geologic zone from all the sand samples from each zone. Each table represents a composite tabulation of the minerals recorded by the use of the petrographic microscope.

The essential rock-forming minerals that were found in the sands that were studied are *quartz, calcite, muscovite,* and *biotite* and, of course, the *feldspars* which were not mentioned or identified in this report. Of these essential rock-forming minerals *quartz* and *calcite* are considered to be highly stable. *Muscovite* is less stable than *quartz* or *calcite,* and *biotite* is considered to be one of the unstable minerals. The accessory rock-forming minerals which were present in the sands studied are *pyrite, rutile, titanite, garnet, tourmaline, zircon, magnetite, ilmenite, glauconite,* and *staurolite.* The highly stable accessory rock-forming minerals are *rutile, staurolite, zircon, garnet, tourmaline* and *titanite,* and the least stable are *magnetite* and *ilmenite,* and the unstable are *pyrite* and *glauconite.* These different minerals suggest certain types of parent rock and each suggestion is important enough in the study of sedimentary formations, in that erosion cycles, as well as peneplaination, could be ascertained which may or may not afford criteria for the determination of structural conditions, that is, such minerals as *staurolite and cyanite* would suggest metamorphic-source rocks, and *muscovite, biotite, rutile* and *zircon* are indicative of certain types of igneous rocks, whereas, *tourmaline* and *garnet* are suggestive of pneumatolytic phases of granite rocks.

A large amount, that is, excessive amounts of *zircon, tourmaline,* and *rutile,* also *ilmenite,* are caused by the deposition and re-deposition of these minerals through several generations of sedimentary deposits. Such an occurrence as this would infer that transportation of the detrital minerals were short and probably carried from epoch to epoch from a residual aspect.

Local conditions may prove the presence of certain minerals which in turn could be used for correlation purposes as well as establishing criteria for interpretating physiographic, and structural data. In this paper several *local* petrographic characteristics of the sands studied from a *limited* area were observed to be prominently outstanding and which could be used very essentially in the study for that respective localized area. In other words, in several fields these characteristics were so outstanding that definite correlation could be made without the aid of any other data. For example, in one field in Jefferson County, Texas, the presence of the opaque minerals in sand samples from a certain formation were so prominent in every case that this particular horizon could easily be used for contouring and correlative purposes without the aid of any other characteristic, whether paleontological or physical.

A *general* observation noticed in the study of the sands throughout the entire Texas-Louisiana Gulf Coast area was that the Frio formation contained a less variety of minerals than any other zone, and that this variety was characterized by the abundance of the opaque minerals which gave the sands a definite "salt and pepper" characteristic. This particular observation is a *general* one and can be said to be characteristic of any sand of the Frio formation in the coast. However, in the example referred to above as to the presence of the opaque minerals in the field in Jefferson County, Texas, the horizon referred to was the *Heterostegina*

TABLE 8

Composite Table of Minerals from the *Marginulina Zone Sands:* Middle Oligocene

Light Concentrate=Large
Heavy Concentrate=Small

Minerals	Relative Amount	Minerals	Relative Amount
Quartz	Very Abundant	Muscovite	Rare
Leucoxene	Abundant	Biotite	Rare
Magnetite	Common	Pyrite	Rare
Ilmenite	Common	Chalcedony	Common
Zircon	Rare	Glauconite	Rare
Tourmaline	Rare	Calcite	Rare
Rutile	Rare	Staurolite	Rare

TABLE 9

Composite Table of Minerals from the *Frio Formation Sands:* Lower Oligocene

Light Concentrate=Large
Heavy Concentrate=Small

Mineral	Relative Amount	Mineral	Relative Amount
Quartz	Very Abundant	Rutile	Rare
Leucoxene	Abundant	Muscovite	Rare
Magnetite	Abundant	Pyrite	Rare
Ilmenite	Common to Abundant	Chalcedony	Common
Zircon	Rare	Titanite	Rare
		Staurolite	Rare

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zone which proves that general conclusions as well as localized conclusions may have to be segregated, however, it may be best for future study to be conducted for the individual field, with final results compiled to ascertain correlation evidences with other fields, thence to the entire provincial area.

As stated above, the Frio formation sands contain less variety of minerals than any other zone, the maximum number of minerals being only eleven (11) and in comparison the Cockfield sands contained a greater variety of minerals than any other zone, the maximum number being seventeen (17) definite kinds. The Upper Saline Bayou sands contain the next greatest number of minerals; the variety determined was sixteen (16). Therefore, it is conclusive that the Upper Saline Bayou and Cockfield sands contain the greatest variety of minerals than any other of the geologic zones studied herein.

Summary of Conclusions

Quartz and *leucoxene* were so present in the sands that they afforded no criteria for correlative purposes.

Magnetite was found to be common in all the zones except in the Frio. In the Frio sands the mineral was abundant. Whether such criterion could be of any value for correlation purposes would depend on further research of many more samples.

Ilmenite was present in all the sands, however, it was noticed that whenever the sand had a definite "salt and pepper" characteristic the mineral would be in the most abundance.

Zircon was identified in all the sand horizons and the consistency varied from one sand to another which afforded no conclusion for correlation purposes.

Tourmaline was found in every zone except in the Frio sands and the only importance that could be attributed to this mineral in this study was its absence in the Frio sands.

No distinguishing correlative value could be established from the study of *rutile* as it was found in every sample and in each case it was "rare."

Muscovite was found to be "rare" in all the sands except those of the Cockfield and Upper Saline Bayou zones where the mineral was very common. This feature alone stood out very plainly even to the naked eye, and can be ascertained as being of correlative value in this study.

Biotite was found in all the geologic zones represented. However, the extent of its occurrence is not indicative of correlative value. Its presence was neither consistent nor prominent which might have afforded any data for basic conclusions.

Cyanite was not found in such quantities or with any rare peculiarities to warrent any correlation data.

Pyrite was found in every zone and in every sand sample studied. Due to its widespread occurrence no correlative value was ascertained from its study.

Chalcedony was found in all samples and is of no importance in this study.

Glauconite was found to be abundant in the Cockfield and Upper Saline Bayou zones, and in these zones the grains and pellets were well developed and large, whereas, in the upper zones the grains were relatively small, chipped or broken. Such observations are considered as criteria for correlation purposes.

Calcite was found to occur only in the *Middle Oligocene* formation and this observation alone is of sufficient importance to form a criterion for correlative purposes.

Garnet was found only in the Cockfield and Upper Saline Bayou sands and very rarely in each case. The mineral was not wholly consistent in all of the samples from these two zones, but enough to conclude that the mineral afforded definite criteria in this study.

Titanite was found in only the last three zones studied, namely, Frio, Cockfield, and Upper Saline Bayou, and the mineral was rare in each case. The presence of the mineral in each of these zones is of correlation value.

Staurolite was found as "rare" and affords no correlative value.

Chalcopyrite was found in the Cockfield zone and only in several samples of sand from this zone; further research may prove this mineral to be of correlative value.

The Frio formation contains a less variety of minerals than any other sand. Every sand sample from this formation was characterized by the abundance of opaque minerals, which give the sands a definite "salt and pepper" characteristic.

The greatest variety of minerals was found in the Cockfield sands.

Certain local petrographic characteristics were found to exist in separated oil fields which are of importance beyond the scope of the general conclusions derived from this study of all of the sands in a widespread area. Further petrographic research is indeed warranted on all sands in the Texas-Louisiana Gulf Coast geologic section. Future work should be more complete and extensive.

TABLE 10

Composite Table of Minerals from the *Cockfield Sands:* Upper Yegua Formation

Light Concentrate=Large
Heavy Concentrate=Medium

Mineral	Relative Amount	Mineral	Relative Amount
Quartz	Very Abundant	Cyanite	Rare
Leucoxene	Abundant	Pyrite	Rare
Magnetite	Common	Chalcedony	Common
Ilmenite	Rare	Glauconite	Abundant
Zircon	Common	Staurolite	Rare
Tourmaline	Rare	Garnet	Rare
Rutile	Rare	Chalcopyrite	Rare
Muscovite	Common	Titanite	Rare
Biotite	Rare		

TABLE 11

Composite Table of Minerals from the *Upper Saline Bayou* Sands: Lower Yegua Formation

Light Concentrate=Large
Heavy Concentrate=Medium

Mineral	Relative Amount	Mineral	Relative Amount
Quartz	Very Abundant	Biotite	Rare
Leucoxene	Abundant	Cyanite	Rare
Magnetite	Common	Pyrite	Common
Ilmenite	Rare	Chalcedony	Common
Zircon	Rare	Glauconite	Common
Tourmaline	Rare	Staurolite	Rare
Rutile	Rare	Garnet	Rare
Muscovite	Common	Titanite	Rare

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A PREREQUISITE TO APPLICATION OF KANSAS SECONDARY RECOVERY PROJECT

By FRANK B. TAYLOR, Staff Writer

GREYSOLON OIL COMPANY of Independence, Kansas, and Duluth, Minnesota, has acquired approximately 2,400 acres of production in Montgomery County, southeastern Kansas, and plans one of the most extensive repressuring projects of the Mid-Continent area. All the acreage at present assembled has been proved productive and is being produced by pumping at this time. A complete investigation of the geologic and productive trends of the three blocks making up the 2,400 acres, the drilling and coring of important locations and the cleaning and reconditioning of old producers during the past three months has made available to the operators a fund of relative information upon which the project is being based.

The increasingly evident fact that successful operation of any type of secondary recovery project is dependent upon accurate and exhaustive laboratory tests, is being acknowledged widely. Greysolon Oil Company, in common with other concerns recognizing the value of a thorough knowledge of sand characteristics, has installed and equipped a laboratory in conjunction with its Independence office. This is the focal point for all information gained in the field,

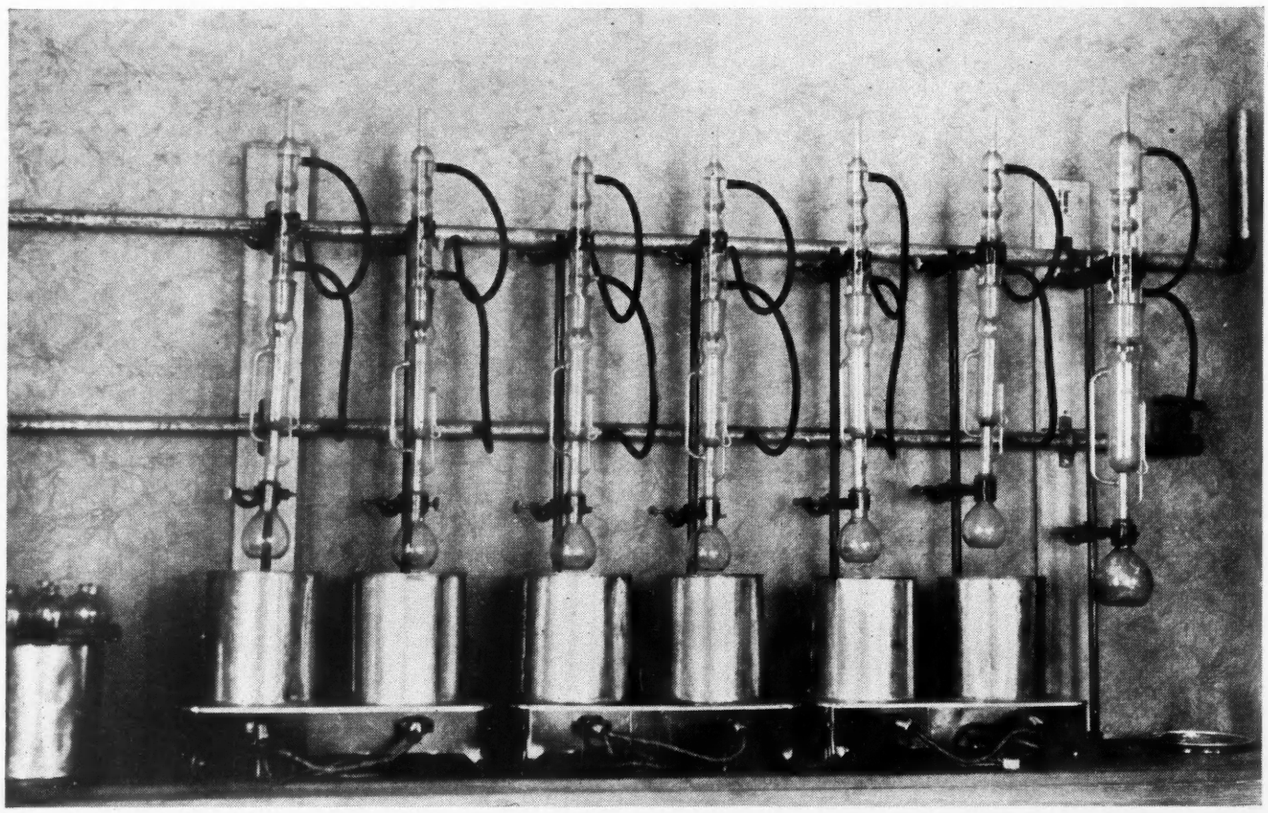

FIGURE 1

Battery of extractors installed as part of the laboratory equipment of Greysolon Oil Company. Graduated centrifuge flasks are at the left. Electrical heating units support immersion containers.

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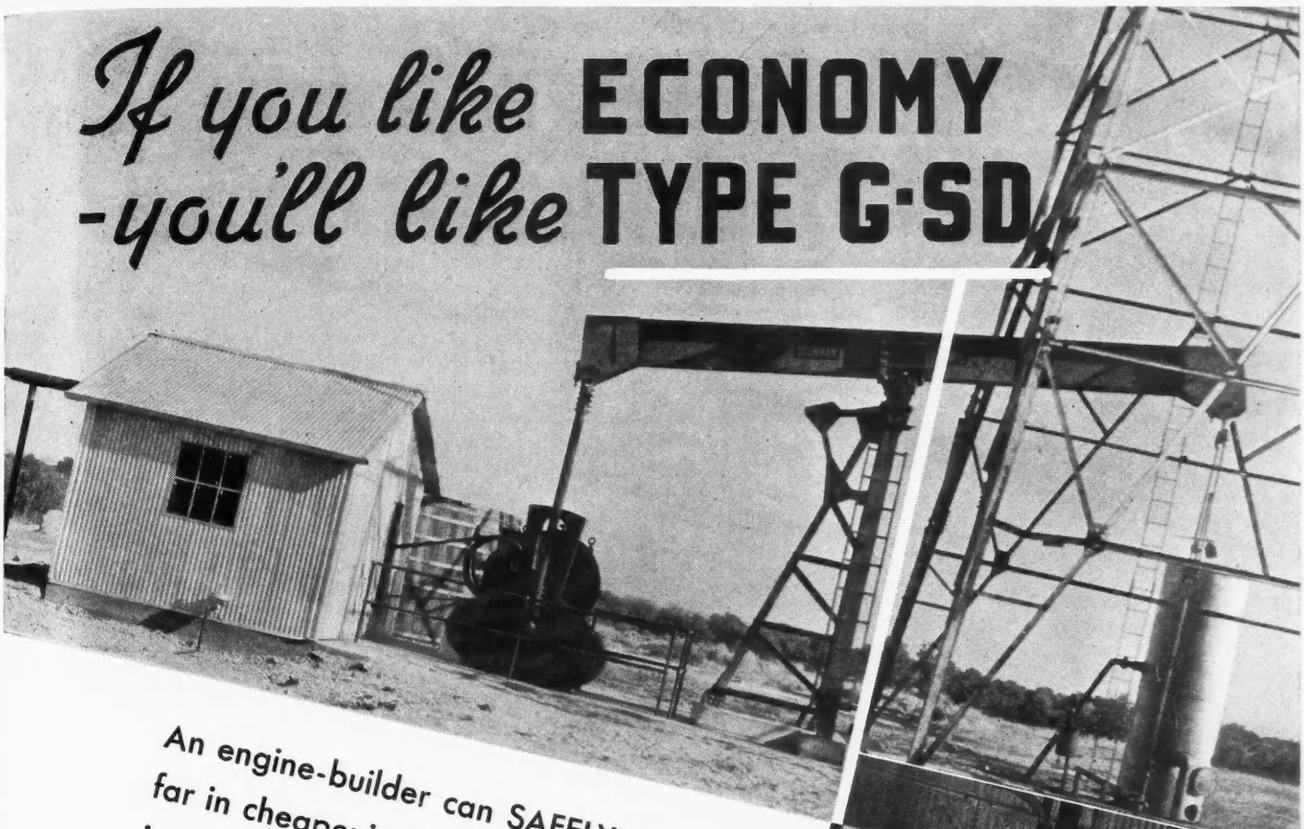

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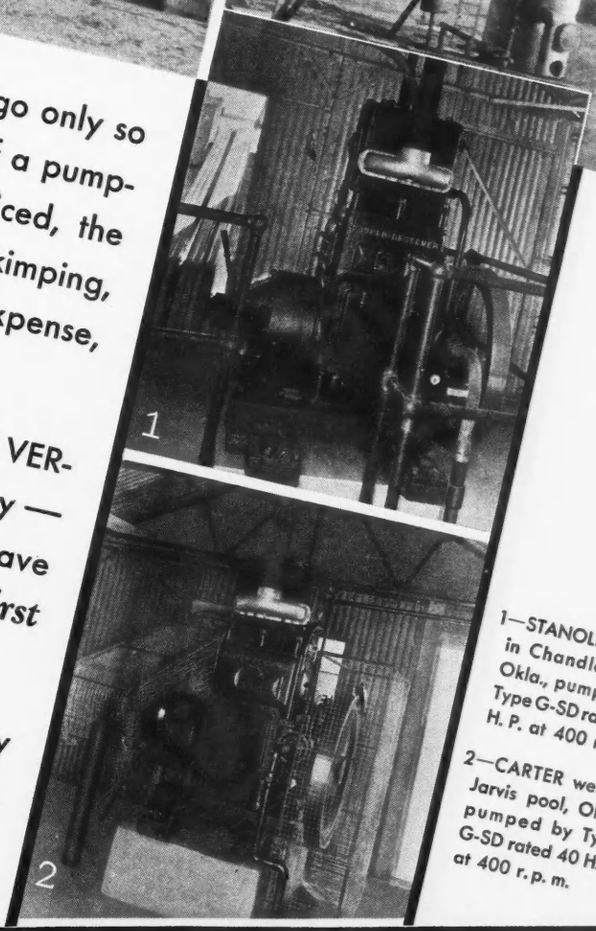

1—STANOLIND well in Chandler field, Okla., pumped by Type G-SD rated 40 H. P. at 400 r. p. m.

2—CARTER well at Jarvis pool, Okla., pumped by Type G-SD rated 40 H.P. at 400 r. p. m.

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and correlated to tests of sections of the producing horizons results in the establishment of specification factors for field equipment. During progressive stages of recovery the adequacy of the methods employed will be checked in the laboratory through core samples and the project governed accordingly.

The work scheduled by this company is of particular interest in view of the fact the acquired acreage is made up of three individual tracts, each being productive from a different sand. One lease, 12 miles south of Independence, is of slightly over 1,400 acres and is productive from the Wayside sand. Top of the pay averages 440 feet in depth and the thickness of the formation averages 40 feet. Equipment on this lease has been repaired and six wells are being repressured with purchased gas at this time. A portion of the area is to be redrilled to conform with the program of development.

Four miles northeast of Coffeyville a lease has been obtained covering nearly 1,000 acres. A sand at the base of the LaBette shale is productive in this vicinity at a depth of 315 feet, and with an average formation thickness of 35 feet. A small compressor, capable of handling 140,000 cubic feet per day is being used on this lease at present, air being used as a repressuring medium. Plans are to discontinue the use of air and to make use of gas present in an overlying stratum of the Cherokee shale group.

Eighty acres two miles east of Havana are productive from Bartlesville sand that averages 20 feet in thickness. Depth to top of this horizon is about 1280 feet. Little work has been done on this tract, although it is to be included in the general development.

All the areas were being produced at the time acquired and production has not been interrupted. Old wells, that might be included in the programs, are being cleaned and reconditioned. None of the tracts has been repressured. Plans have been completed for the installation of a 90-horsepower, direct-connected gas engine and compressor as the first unit for repressuring in the tract south of Independence.

Laboratory equipment installed digresses from other setups in some degree, and although it is not elaborate, is entirely sufficient for all functionary determinations. The application of basic principles in arriving at required solutions is similar to those applied elsewhere with the exception of the measurement of permeability. A novel means is being employed for this measure, in which readings are amplified within the apparatus itself. This is made possible through the use of a sensitive differential manometer attached to a tiny orifice well tester type meter.

Laboratory Apparatus

A battery of six Soxhlet extractors (Figure 1) are used for determining volumetrically, the oil content of the sand cored. Each of these is mounted to a standard by means of clamps, and have condensing water fed and discharged through rubber hose connections into common supply and discharge lines. A table supporting the standards and dual heating units for the treating process is accessary equipment. Special immersion containers are used on the heat units.

In operation, a sample of core from the well under test is placed in a flask and covered with normal pentane. The piece being tested need not be of known physical dimensions as will be shown later. A test is considered satisfactory if the volume of the sample is from five to 10 cubic centimeters. Following the submersion of the sample, the flask is attached to the Soxhlet ex-

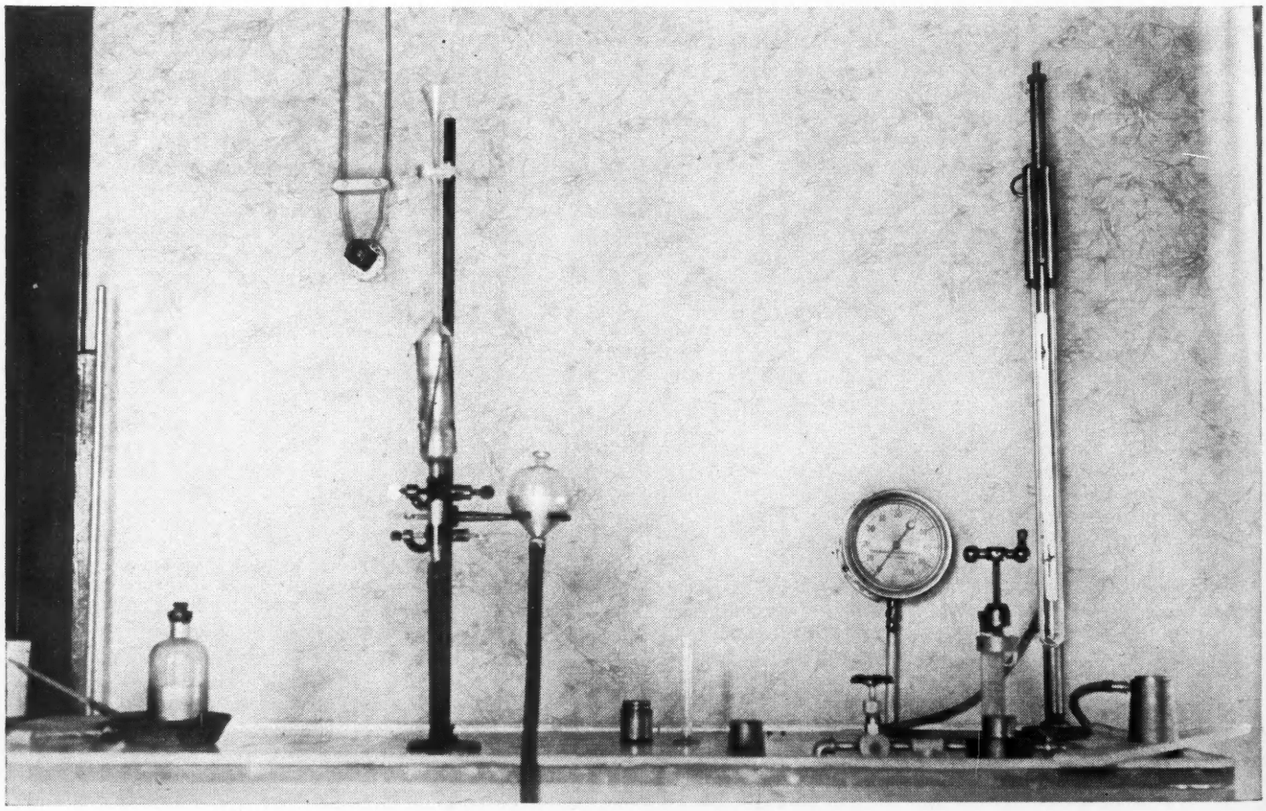
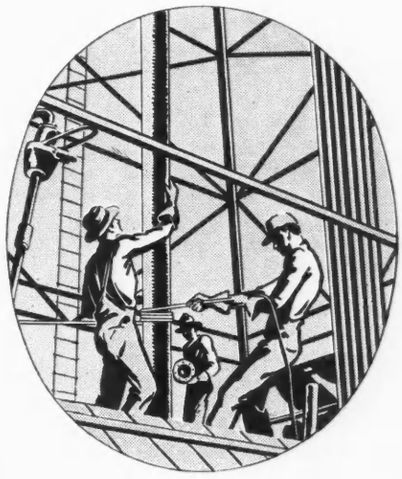


FIGURE 2

Apparatus at the left center of scene is equipment for determining pore space of samples. At the right is the differential manometer which is used in permeability determinations. Sample holder is dismantled in the foreground



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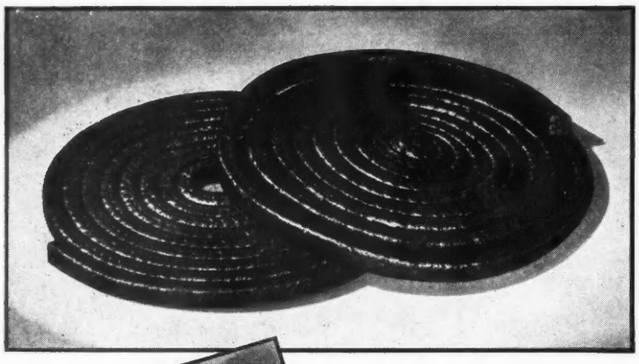

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tractor and heat applied to the immersion container until all oil in the piece has dissolved in pentane.

Other compounds than pentane could as well be used, for the primary object is to free recoverable oil from the pores of the sand, and to be able to make close determinations of the crude released. Pentane is widely used for the purpose because it is obtainable readily and reasonable in cost. Formula for pentane, a hydrocarbon, is C_5H_{12} and gravity, 2.49. The compound meets most of the requirements and has a comparatively low boiling point.

After all free oil in the sample has gone into solution with the solvent, the pentane is driven off by heating in a graduated centrifuge flask, leaving the recovered crude with volume revealed by means of the graduations.

It is immediately evident that through this process, as explained, any of the higher hydrocarbons than pentane would be driven off due to their lower boiling point. Consequently, a corrective factor must be set up to compensate for loss of low boiling point compounds. This is accomplished by taking a sample of crude from the sand being tested, making no effort to ascertain its volume as related to pore space, but measuring the crude sample accurately by means of a graduated beaker. This sample of crude is treated in exactly the same manner as previously described, and during this process also, a given percent of the lighter hydrocarbons will be driven off by heat. A comparison between the oil left after treatment and crude quantity used to start the test will establish a ratio to the loss sustained during the extraction process.

Measuring the oil derived through the extraction process, and correcting by applying the factor for loss of low boiling fractions of the crude, will equal the quantity of oil recovered from the sample. As previously mentioned, the tested piece was not of known volume. This necessary factor is then obtained simply by filling a flask with mercury and by submerging the tested sand sample. The mercury displaced, measurable in cubic centimeters, is equal to the total volume of the sample.

With both the quantity of oil and the volume of the extracted sample known, the quantity of oil present in a cubic foot of the sand is calculated readily. In order to form a more accurate and comprehensive knowledge than the single operation would afford, an extraction test is made of a sample taken from each foot of the producing horizon. Each well, tested in this manner, provides the firm with a complete knowledge of the quantity of oil in storage both as to area and distribution.

Pore space is determined by the equipment shown to the left of the center of Figure 2. This installation consists of a standard supporting a glass cylinder which may be separated into halves. The top of the upper half of the cylinder cones into a graduated glass tube incorporating a glass petcock and funnel at the top. At a lower funnel extension, a rubber hose is connected to an open vial of mercury.

The sample to be tested, and which is of known volume, is placed in the glass cylinder and completely submerged with mercury against the closed glass petcock at the top of the graduated tube. Air that is captured in the equipment is bled out through the petcock previous to its being closed. By manually raising and lowering the bulb of mercury, which is attached by means of a flexible hose to the unit, the mercury is lowered to a

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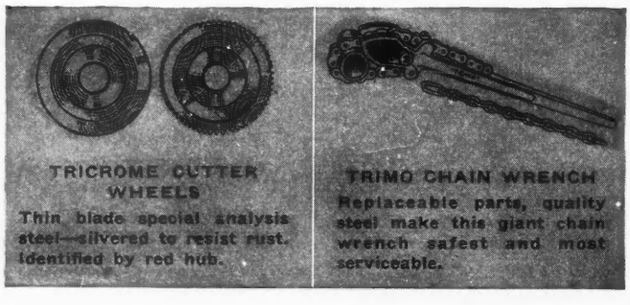

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point below the core sample. This action places a partial vacuum upon the sample, and extracts air from the pores of the sand. The bulb should be held at the lowered position for from one to four minutes, depending upon air volume of the core. This operation is repeated until there is no more air obtainable from the sample. The total volume of air removed is the sum of the volumes obtained during each operation, and this quantity measured in cubic centimeters, is the total pore space of the sample.

The completion of this operation, which sets the porosity factor for the particular sample, is then applicable to the oil removed by the extractor determination, and the relationship between the two is the oil saturation of the core. Through the compilation of data resulting from these tests the laboratory technician has gained sufficient information for a direct comparison to the per acre foot of sand. The quantity of oil remaining in storage is then calculated, the active pore space, the mean porosity and the mean saturation.

Permeability, or the ability of a formation to pass fluids, is determined and measured in millidarcys. For this purpose, a sample is cut from a core, as near as possible to point from which other tested samples have been obtained, and boiled in carbon-tetrachloride to remove all oil. For cutting this sample, a small, diamond faced drill is used in a power drill adapted to the purpose. The larger core is held rigid by clamps, and the cutting is lubricated with either water or kerosene.

The ends of the smaller core are cut by placing the sample in a steel sleeve having a slot through which a steel knife can be driven. In this manner the ends are cut as nearly even as possible. As any small variation in the uniformity of the core faces may change the findings considerably, the mean length is found by immersing in mercury as explained previously.

The small cores are then further prepared for testing by thorough drying. They are then clamped into the instrument and air is passed through in the desired direction for the particular determinate. Air used is dried by absorption, Calcium Chloride being the agent usually employed. Control of the air volume is by a needle valve, which has been found entirely satisfactory for flow regulation at the various pressures used during the tests.

Results are read directly upon a manometer calibrated to indicate the air volumes passed. Either alcohol or water may be used as an acting fluid, mercury being used in the upstream indicator. By the construction of the recording "U" tube, which includes a vernier of smaller tubing than that used at the bend, a multiplication factor is established that assures greater accuracy than would otherwise be possible in reading the positions of the fluid.

When these latter tests have been completed, the results are corrected to room temperature and barometric pressure, and are then based upon absolute pressure. Successive tests are necessary in forecasting the probable progression of repressuring mediums both vertically and horizontally through the producing formation.

Handling Core Samples

All tracts being tested by Greysolon Oil Company are being drilled with cable tools to the producing formations and are then cored with two-inch rotary equipment. As cores are taken, samples are broken from each foot of recovery. These representative sections are then wrapped immediately in cellophane and are sealed in fruit jars for transportation to the laboratory. It has been found that this method is simple, and that the core is fresh when opened for testing.

TOOLS that PERMIT Continued DRILLING THROUGH..

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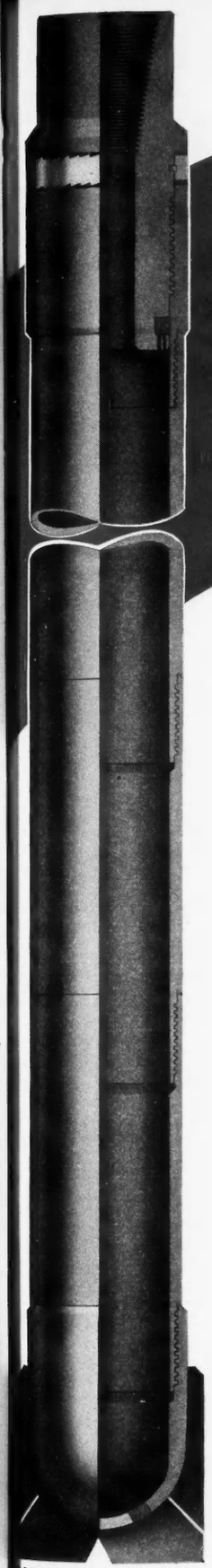
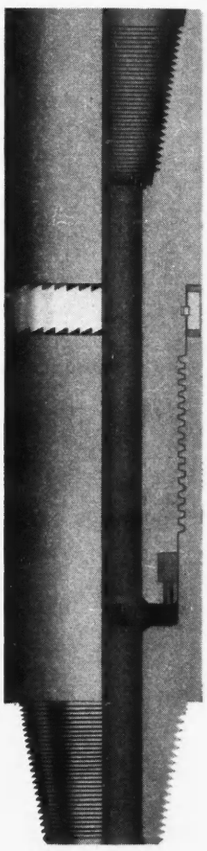


T.I.W. Heaving Shale Drilling Assembly, Patent Pending



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1. T-I-W HEAVING SHALE DRILLING ASSEMBLY

When the shale formation is encountered, the shale bit illustrated herewith is run in the hole on a combination string of regulr drill pipe and flush joint casing, the latter on bottom. The two types of pipe are connected by a T-I-W Safety Joint. Shale is drilled in the regular manner. In case pipe becomes stuck, and cannot be rotated or pulled, drill stem is rotated to the left, breaking out the T-I-W Safety Joint, and leaving flush joint casing in the hole. T-I-W Shale Bit may now be very easily milled through, and the procedure repeated with smaller diameter flush joint casing.

This practice, being generally used on many wells in heaving shale territory, greatly facilitates this difficult drilling. Combined with efficient drilling mud control, it offers you the most reliable practice in the safe penetration of heaving or sloughing formations. Full details on both tools, and details of experience gained in their use, will be provided on request to any interested operator.

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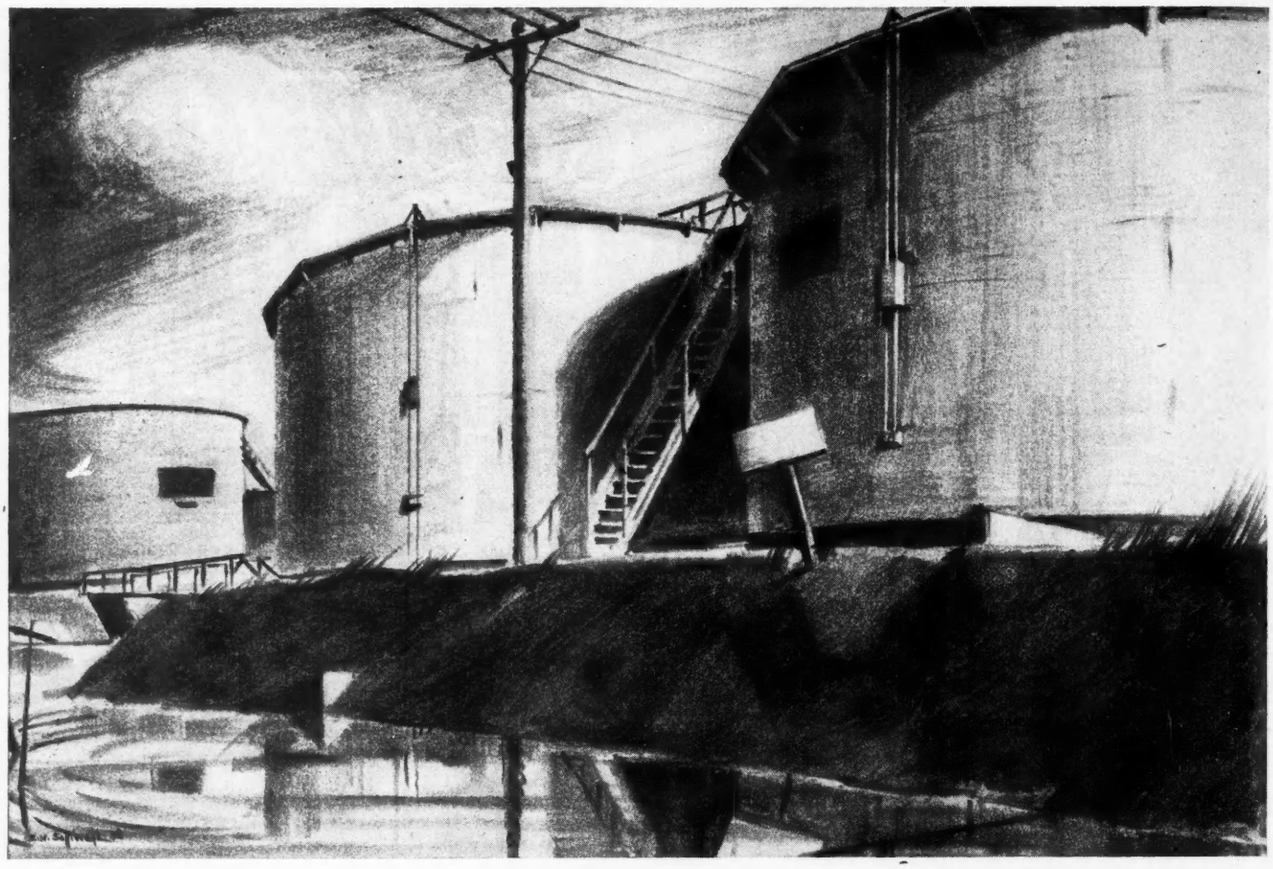

TANK FARM ON THE TEXAS COAST — *From a lithograph by E. M. Schiwetz*

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Markets Gain

PRODUCT PRICES HIGHER AND IMPROVE CRUDE'S CHANCES

PUSHING ahead despite several obstacles, the oil markets during the past week moved onto somewhat higher ground. Product prices made additional gains, and those advances increased the probability that higher crude prices will be generally adopted early in January.

The Mid-Continent crude raise scheduled by Continental Oil Company and several other concerns will become effective January 4, and the current trend of the market indicates that upward revisions will become general at about that time.

While the announcements so far have provided for crude price increases only in the Mid-Continent and Rocky Mountain regions, it now seems quite conceivable that the increases will be extended throughout most of the country.

There has not been any intimation as to whether the 17 cent increase contemplated by Continental company will be generally accepted, or whether a raise of some other amount will be insisted upon, in event the price raising becomes general.

Dealer and Retail Prices Up

In anticipation of higher crude postings and increased refinery prices, and with consumer demand holding up remarkably well, both dealer or tank wagon prices and retail service station postings of all grades of gasoline were increased last week in Oklahoma. The dealer prices were advanced one cent a gallon, under leadership of Continental Oil Company. Immediately afterward, service station prices also were increased one cent a gallon at Oklahoma City, Tulsa, and other points in the state.

Inauguration of the higher prices to dealers resulted immediately in public statements by members of the Oklahoma Corporation Commission, oil and gas regulatory body, in which they expressed concern for the welfare of the consuming public. Indicating the belief that the higher prices to dealers had a connection with the scheduled 17 cent crude price increase, the commissioners stated they would investigate the advisability of liberalizing crude allowables. The Texas Railroad Commission similarly has indicated in the past that it does not propose to make oil scarce so as to make it high in price.

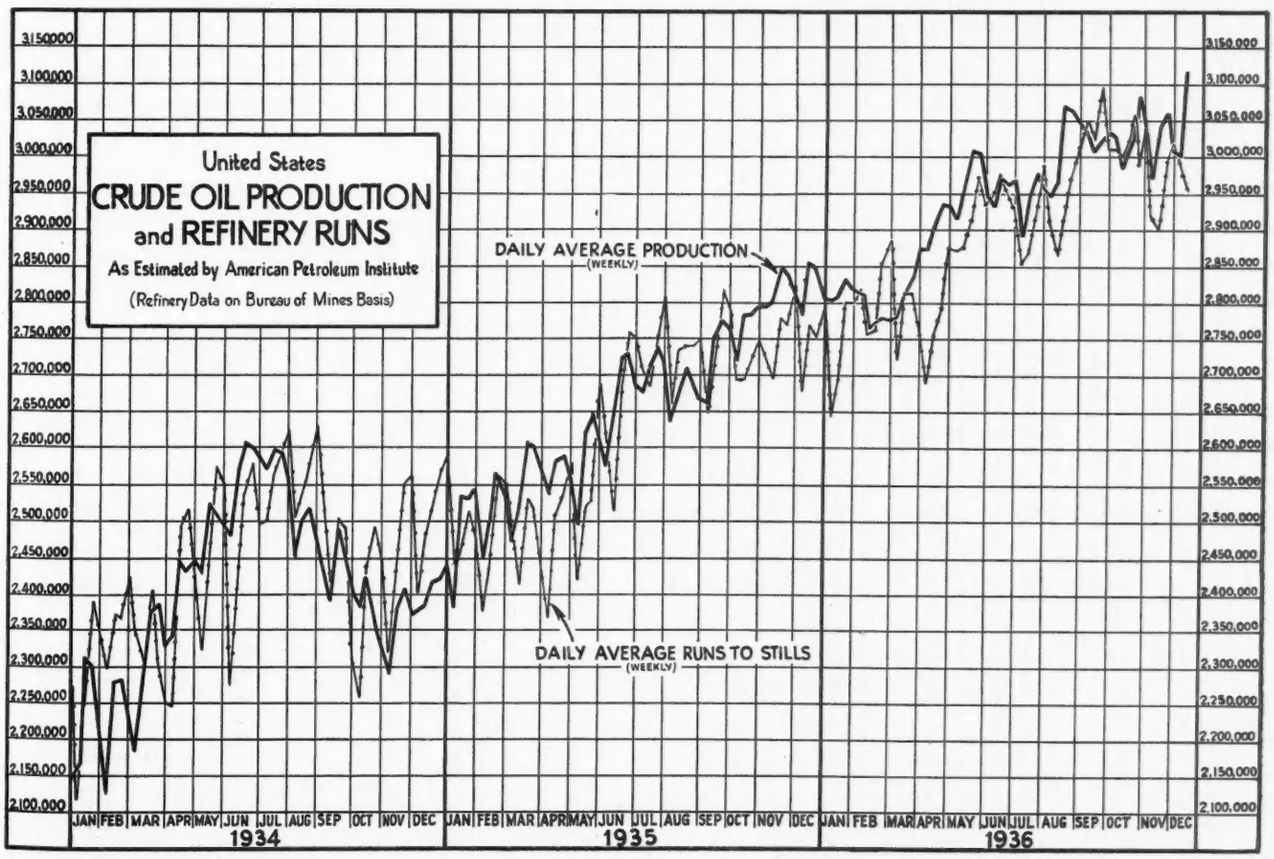
Crude Output Large

Meanwhile, crude oil production has been running at unprecedented levels. The output hit a new all time peak in the week ended December 12, reflecting the action already taken by Texas, Oklahoma, Kansas, and New Mexico state authorities in liberalizing crude production allowables. All those states, as well as Louisiana and California, have December allowables higher than recommended by the Bureau of Mines.

So far the markets have not been appreciably affected by the present liberalized allowables and the prospect that the quotas possibly may be further increased. But the trend toward slacker control of crude production eventually must be recognized in the markets, and this trend naturally endangers the higher crude price structure that is contemplated.

Already there have been intimations that liberal allowables will be continued in January.

Consequently, if the general crude price increase materializes, it will do so in the face of the higher allowables, and the new price structure will have to withstand



a double strain—the strain of the price increase itself, and the strain of the more abundant supply.

It is evident, therefore, that the market outlook is not altogether rosy, despite the scheduled and expected crude price increases.

Henceforth, above ground stocks of oils appear destined to increase, in contrast with the long sustained decrease of the past, and the stocks will be watched with anxiety lest they assume uneconomic proportions.

Markets Improve

Higher allowables have not been in effect long enough, however, to materially affect stocks or to influence prices.

Up to now there has been a close balance between supply and demand, and the price trend has been upward.

That trend continued to prevail last week, when additional gains were made in tank car prices as well as in the dealer and retail prices. Although gasoline tank car prices made no additional progress last week, kerosene and fuel oil prices at the refineries showed further improvement in some instances. Kerosene was up one eighth cent a gallon from the previous week's price at Oklahoma refineries, and fuel oils were up similarly in the Chicago market.

Mid-Continent Prices

Late last week the prevailing tank car prices of U. S. Motor gasoline at Oklahoma refineries appeared to range as follows: 62 octane and below, 4¾ to 4⅞ cents a gallon; 63 to 67 octane, 5⅛ to 5⅜ cents; and 68 to 70 octane, 5¾ to 5⅞ cents. Corresponding prices in the Chicago market were: 4⅝ to 4⅞ cents, 5 to 5¼ cents, and 5½ to 5⅞ cents. At East Texas refineries, fully tendered third grade gasoline ranged from 4⅝ to 4¾ cents.

Kerosene prices improved one eighth cent a gallon in the Oklahoma market, with some sellers withdrawing from the market and storing supplies for use in tractors next spring. The 41-43 water white grade f. o. b. Oklahoma refineries ranged from 3¾ to 3⅞ cents, and the 42-44 water white grade from 3⅞ to 4 cents. Prices in the Chicago market remained unchanged at one eighth cent less than the new Oklahoma prices.

Light fuel oils were active in the markets, despite milder weather in some parts of the Middle West. In both the Oklahoma and Chicago markets the No. 1 white oils ranged from 3⅝ to 3¾ cents, and the No. 1 straw from 3½ to 3⅝ cents; while the No. 2 straw ranged around 3½ cents and the No. 2 dark around 3⅜ cents.

East Texas Premiums

Competition waged by crude purchasers for well connections in the East Texas field will be maintained at a full stride during the current winter. Demand for the oil greatly exceeds the supply allowed under proration restrictions. This is borne out by the fact that East Texas refineries are supplementing their limited runs with oil brought in from Talco, Southwestern Texas and Rodessa. Majors are preparing to lean more heavily on the Rodessa field during 1937 to take care of their deficit on high gravity oil. Two contracts of major proportions that involve the delivery of Rodessa crude by United Pipe Line Company to trunk lines leading from the East Texas field become effective January 1.

A 5 percent premium above the posted price is available to every oil producer in the East Texas field having a score or more wells that can be served by a single private gathering system. Majority of the large purchasers make a practice paying such a bonus in order to hold or enlarge their runs. A few contracts, involving 7½ cents per barrel, are in force. Ward Oil Corporation, is one of the latest to go after the extra compensation, and is building 2½ miles of line to connect 4 leases, with 61 wells, in the Overton-London area. Sun Pipe Line Company is reported to be paying the company 5 cents per barrel gathering charge.

Toronto Pipe Line Company, one of the largest independent crude buyers in the field, with about 1000 barrels of controlled production and 14,700 barrels of purchased oil daily, was due to lose about 4200 barrels daily from 210 wells in the Joiner area on December 16 as result of Humble Pipe Line Company having repossessed a unit of its gathering system leased to the former since last March 1.

Summary of Wells Completed in the United States Week Ending December 19, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this Date 1935
Alabama	.....	.....	....	....	.....	2	4
Arkansas	.....	.....	....	....	.....	90	121
California	17	14	....	3	8,610	1,080	826
Colorado	.....	.....	....	....	.....	18	11
Florida	.....	.....	....	....	.....	2	.....
Illinois	.....	.....	....	....	.....	4	9
Indiana	.....	.....	....	....	.....	165	173
Kansas	45	32	2	11	39,753	1,667	1,348
Kentucky	1	.....	1	....	.....	268	169
Louisiana	17	6	1	10	3,395	987	712
Michigan	14	7	2	5	591	756	581
Mississippi	.....	.....	....	....	.....	8	19
Montana	.....	.....	....	....	.....	189	170
Nebraska	.....	.....	....	....	.....	1	.....
New Mexico	8	8	....	....	12,465	555	292
New York	.....	.....	....	....	.....	.....	.....
Ohio	39	11	19	9	4,543	1,898	1,494
Oklahoma	63	47	2	14	136,187	2,801	2,355
Pennsylvania	.....	.....	....	....	.....	.....	127
Texas	236	178	7	51	220,611	12,309	11,395
Utah	.....	.....	....	....	.....	.....	1
West Virginia	.....	.....	....	....	.....	598	575
Wyoming	.....	.....	....	....	.....	93	69
Total this week	440	303	34	103	426,155	23,491	20,357
Total last week	509	345	58	106	386,434	.....	.....
Total this year	23,491	15,789	2,204	5,498	21,775,491	.....	.....

TO PROBE RAISE

Oklahoma gasoline price raise is questioned

Oklahoma City.—Close on the heels of an announcement by Charles Biggs, manager of the Petroleum Retailers Association, that the price of gasoline in Oklahoma had advanced 1 cent, effective December 12, came word from A. S. J. Shaw, member of the state corporation commission, that a probe concerning the increase would probably be made on or about December 29.

Refiners declared the price increase justified, some contending it should have been 2 cents instead of 1 in some sections of the state, due to the difficulty encountered in recent weeks in meeting the demand.

The 17-cent increase in the price of crude oil, as announced by Continental Oil Company, to become effective January 4, 1937, was thought by many to be one of the inciting factors in the sudden gasoline price hike. Officials of Mid-Continent oil companies, however, declined to explain the motives for the increase, even though it was known that such an increase was being considered long before Continental surprised the industry with its announcement, and proceeded to take the initiative in raising the tank wagon price.

With the Iowa marketing plan in effect in Oklahoma, under which the refining company does not fix the filling station price, the matter of raising the retail service station price was left to the lessees and dealers themselves. In Tulsa, December 14, more than 65 percent of the retail station operators were charging 16 cents for third grade gasoline, 20 cents for standard, and 22 cents for premium, with the same prices prevailing in most stations in Oklahoma City.

Biggs stated the increase will be posted at refineries so that both tank wagon and tank car prices will be boosted. Under the present operating methods, the refiners are not attempting to set the retail prices.

Comparison of Permits Granted for New Wells

STATE	Week Ending Dec. 19	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	5	9	102	66	70
California	23	67	1,031	958	925
Louisiana	13	48	1,093	846	846
Kansas	43	115	1,814	1,189	1,204
Michigan	14	54	754	749	749
Oklahoma	64	180	2,531	2,278	2,311
Texas	428	796	15,398	10,752	10,800
Total	590	1,269	22,723	16,816	16,964

ANOTHER PEAK SET

U. S. production reaches 3,138,625-barrel mark

ALTHOUGH it had set a new record in the previous week, United States crude oil production continued to increase last week, and again the output represented a new all-time peak. For the seven-day period ended December 19, the country's production averaged 3,138,625 barrels daily, according to THE OIL WEEKLY.

That was higher than the all-time record figures of the previous week as reported by either THE OIL WEEKLY or the American Petroleum Institute. For the week ended December 12 THE OIL WEEKLY reported daily average production of 3,124,000 barrels, while the A. P. I. reported 3,119,500 barrels daily. Thus last week's output showed an increase of 14,625 barrels daily over the former figure, or 19,125 barrels over the latter.

The record high production of the past two weeks reflects the higher state allowables now prevailing in Texas, Oklahoma, Kansas, and New Mexico. Those states broke away from the Bureau of Mines recommendations in fixing allowables for December, whereas they previously had been adhering closely to the federal government suggestions. Louisiana and California, the other of the six leading states, for months have been disregarding the Bureau of Mines recommendations in setting state allowables.

As indicated by the increase of the nation's total crude production, there were increases last week in most of the leading producing states.

Texas output averaged 1,207,600 barrels daily, or 3800 barrels a day more than in the previous week, and 62,400 barrels a day more than the Bureau of Mines recommendation.

Oklahoma production was up 5175 barrels at 597,375 barrels a day, which was 30,375 barrels a day more than the federal allocation.

Kansas last week averaged 173,600 barrels daily, or 1100 barrels a day more than in the previous week and 17,700 barrels a day more than the state's allocation.

Louisiana's production averaged 239,750 barrels a day last week, or 2100 barrels daily more than in the preceding week and 34,950 barrels a day more than the Bureau of Mines recommendation.

New Mexico last week averaged 85,700 barrels daily, which was 100 barrels a day less than in the previous week and 7400 barrels a day more than the bureau allocation.

PLAN PLANT

Borger, Texas.—Skelly Oil Company, Tulsa, proposes to erect a large natural gasoline plant to operate on casinghead gas in Hutchinson County section of the Texas Panhandle. Plant may be erected on Section 13, Block L, E. L. & Ry. Co. Survey.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in Dec.)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING December 19	December 12
TEXAS—			
Texas Panhandle	.....	63,100	63,400
North Texas	.....	66,200	66,500
West Central Texas	.....	34,200	34,900
West Texas	.....	166,400	163,600
East Central Texas	.....	84,300	83,800
*East Texas Field	.....	445,900	445,100
South Texas	.....	179,100	181,200
Texas Gulf Coast	.....	168,400	165,300
*Total Texas	1,145,200	1,207,600	1,203,800
OKLAHOMA—			
Oklahoma City	.....	162,225	164,900
Seminole Area	.....	134,675	132,300
Tatums	.....	3,525	3,600
Lucien	.....	12,250	12,500
Fitts	.....	72,250	65,475
Edmond	.....	15,025	15,425
Others	.....	197,425	198,000
Total Oklahoma	567,000	597,375	592,200
KANSAS—			
Ritz-Canton	.....	6,225	6,325
Voshell	.....	2,750	2,775
Nikkel-Hollow	.....	3,600	3,600
Sedgwick	.....	4,925	4,950
Burrton-Haury	.....	14,125	14,275
Lorraine	.....	5,550	5,700
Oxford	.....	3,200	3,150
Others	.....	133,225	131,725
Total Kansas	155,900	173,600	172,500
LOUISIANA—			
North Louisiana	.....	78,550	78,450
Louisiana Gulf Coast	.....	161,200	159,200
Total Louisiana	204,800	239,750	237,650
ARKANSAS	26,800	27,700	27,750
CALIFORNIA—			
Long Beach	.....	65,000	64,500
Santa Fe Springs	.....	45,000	45,500
Huntington Beach	.....	38,000	36,500
Dominguez	.....	24,000	23,500
Inglewood	.....	13,500	14,000
Ventura Avenue	.....	34,000	35,000
Seal Beach	.....	8,500	7,500
Midway-Sunset	.....	69,000	72,000
Elwood	.....	10,500	10,500
Kettleman Hills	.....	78,000	77,500
Mountain View	.....	21,500	21,500
Playa del Rey	.....	10,500	11,000
Others	.....	177,500	174,000
Total California	553,400	595,000	593,000
MOUNTAIN STATES—			
Wyoming	40,200	46,600	45,300
Montana	14,300	18,300	18,000
Colorado	4,500	3,800	3,600
Total Rocky Mountain States	59,000	68,700	66,900
NEW MEXICO	78,300	85,700	85,800
EASTERN STATES	110,600	114,100	114,600
MICHIGAN	29,300	29,100	29,800
*Total United States	2,930,300	3,138,625	3,124,000
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	.....	8,000	10,000
Grand Total, including surreptitious production	.....	3,146,625	3,134,000

Crude Runs to Stills, Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended December 12, 1936

(Figures in thousands of barrels of 42 gallons each as reported to American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
						Finished		Unfinished in Naphtha Distillates	Total Finished and Unfinished							
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines			Gas Oil & Distillates	Residual Fuel Oil	Total	Potential Rate	Reporting		Daily Average
		Total	%											Total	%	
East Coast	612	612	100.0	510	83.3	4,633	8,598	841	14,072	5,293	5,421	10,714	534	534	100.0	110
Appalachian	154	146	94.8	98	67.1	865	1,037	228	2,130	346	288	634	79	78	98.7	22
Ind., Ill., Ky	475	457	96.2	428	93.7	4,146	3,615	811	8,572	2,755	2,934	5,689	349	348	99.7	122
Okla., Kans., Mo	453	384	84.8	271	70.6	3,135	1,996	419	5,550	1,147	2,184	3,331	256	228	89.1	66
Inland Texas	330	160	48.5	115	71.9	1,391	83	250	1,724	399	1,374	1,773	148	105	70.9	30
Texas Gulf	732	710	97.0	600	84.5	5,430	241	1,820	7,491	3,298	4,002	7,300	399	393	78.5	148
Louisiana Gulf	169	163	96.4	129	79.1	972	311	215	1,498	1,030	828	1,858	77	74	96.1	33
North La.,—Ark	80	72	90.0	46	63.9	191	56	40	287	188	340	528	46	44	95.7	9
Rocky Mountain	97	60	61.9	45	75.0	825	.....	100	925	208	567	775	46	39	84.8	16
California	852	789	92.6	490	62.1	8,793	2,231	1,224	12,248	.....	.....	73,405	280	280	100.0	73
Reported	.....	3,553	89.9	2,732	76.9	30,381	18,168	5,948	54,497	.....	.....	106,007	.....	2,123	95.9	629
Estimated Unreported	.....	401	.....	223	.....	1,882	865	771	3,518	.....	.....	2,262	.....	91	.....	46
*Estimated Total U. S. December 12, 1936	3,954	3,954	.....	2,955	.....	32,263	19,033	6,719	58,015	.....	.....	108,269	2,214	2,214	.....	675
*Estimated Total U. S. December 5, 1936	3,954	3,954	.....	2,990	.....	31,745	19,489	6,462	57,696	.....	.....	110,287	2,214	2,214	.....	710
U. S. B. of M., *December 12, 1935	.....	.....	.....	†2,742	.....	29,315	18,665	5,865	53,845	.....	.....	106,965	.....	.....	.....	†580

* Estimated Bureau of Mines basis. † December, 1935 ,daily average.

Request More Oil

[*Continued from page 8*]

December 12 averaged 1,175.26 pounds, he said. During the previous month, the production averaged 443,873 barrels daily, which meant that pressure declined at .344 pounds per million barrels of oil produced. Cottingham did not recommend any change in the East Texas allowable, but this statement that the drop reported was not excessive indicated that he felt the present allowable should be maintained.

Operators in the McCamey and Henderson fields asked for increases in unnamed amounts. A 200-barrel increase for the Sand Hills field was requested. Sinclair Prairie Oil Company asked that the allowable for the Leck field in Winkler County be raised 256 barrels.

Yates Operators Differ

A request from Yates operators that the potential test ordered by the railroad commission be abandoned opened up the entire Yates case. The major companies in the field contended that the test would create physical waste and would result in procuring no information which would be valuable to the railroad commission. They pointed out that the wells do not have the same size casing, that no storage or flow lines are installed and that some wells had been acidized while others have not. For these reasons they felt that the tests would cause an expenditure of some $300,000 without bringing before the commission the true potentials of the wells in the field.

P. P. Gregory, chairman of the Yates Engineering Committee, testified that bottom-hole pressure decline was a sufficient gauge of potential variation based on original potential tests. He declared that the open flow tests ordered would result in the waste of large volumes of gas and the coning of water into wells.

His testimony was attacked by attorneys Gillis Johnson and Mark McMahan, representing M. D. Bryant and other operators of small leases in the field whose allowables would be affected by the redistribution program which is advocated by Ohio Oil Company. They developed that the potential tests had not been repeated on wells which were tested prior to 1931 and charged that Ohio and other companies had produced oil from wells whch were actually dead. This Gregory denied vigorously. They asked Gregory whether, if on a potential test a well produced oil and water, the potential allowance could be determined accurately. He pointed out that the test was made for the purpose of determining the amount of pipe line oil which would be produced and that any amount of water coming along with the oil would not change the result.

The testimony developed the fact that several large units on the edge of the Yates field, portions of which were known to be non-productive, had been carried as full units for proration on the schedules issued for several years. Stanley Gill, independent petroleum engineer representing M. D. Bryant, testified that the potential tests proposed were the only method that could be used for determining the flowing capacity of the wells. He insisted that the bottom-hole pressure method was inaccurate over a long period of time, especially after several years. He insisted that the amount of gas wasted would not be unreasonable and said that the potential tests could be made for much less than the $300,000 which had been estimated.

An increase of 2500 barrels daily for the shallow sand in the Greta field was requested by John Boyle, attorney for the operators. He declared that this amount of oil was necessary to place that field on a parity with others in the area.

Conroe operators asked for an increase of some 13,000 barrels or a total allowable of 5000 barrels daily. F. M. Davis, petroleum engineer for the operators, said that 90,000 barrels could be produced from the field without waste.

George Strake asserted that it had been open season on Conroe every month at every hearing and suggested that the operators might not follow commission orders unless they obtained some relief.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to December 18, 1936)

DISTRICT	Bottom Grav.	Dif.	Top Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Andrews, Crane, Crockett, Ector, Glasscock, Howard,				
Winkler, Upton	29— .76	2¢	36— .90	1-14-36
Pecos	* .85			1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .65			11-1-36
Rodessa	*1.10			1- 9-36
Texas Gulf Coast				
Anahuac - Dickinson, Flour Bluff, Turtle Bay	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball, Satsuma	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull, Liberty, Orange, Pierce Junction, Barbers Hill, Raccoon Bend, Sugarland, West Columbia, Thompsons, Mykawa, Amelia, Plymouth, Quintana-O'Connor,	Below			
North Quintana	17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .95			11- 1-36
Greta (Heavy)	* .95			11- 1-36
Saxet (Light)	*1.22			10- 1-36
Saxet (Heavy)	* .95			11- 1-36
Taft (Heavy)	* .95			11- 1-36
Mirando	* .90			11- 1-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Placedo (Heavy)	* .90			11- 1-36
Placedo (Light)	* .95			4- -36
Port Lavaca	* .97			
Heyser (Light)	*1.15			11-1-36
Heyser (Heavy)	* .90			11-1-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Bottom Grav.	Dif.	Top Grav.	Date
Arkansas				
El Dorado (Light) and Rainbow	25—$0.78	2¢	40—$1.10	1-10-36
El Dorado East Field and Smackover	* .75			1-10-36
North Louisiana	25— .78	2¢	40— 1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa Cameron Mds.	19— .82	2¢	34— 1.12	1- 9-36
Lafitte	*1.12			11- 1-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.18			7-20-36
Frannie (Light)	* .70			11- 4-36
Frannie (Heavy)	* .62			11- 4-36
Grass Crk., Wyo., (Light)	*1.18			7-20-36
Grass Creek (Heavy)	* .62			11- 4-36
Hamilton Dome	* .57			11- 4-36
Big Muddy	*1.11			1- 9-36
Rock Creek, Wyo	*1.08½			11- 1-36
Sunburst	*1.15			6- 5-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.35			6- 3-36
Pondera	*1.05			9-29-33
Hog Back, N. M	*1.00			9- 8-33
Lea County, N. M	29— .76	2¢	36— .90	1-14-36
Mid-West States				
Lima	*1.15			9-18-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.28			11-1-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.32			9-18-36
Michigan				
Central Michigan	*1.32			9-16-36
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33
Mexico				
F.O.B. Tampico (Net)	‡0.96			

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.
‡ U. S. Currency, buyer pays tax.

MAJOR PRICE CHANGES

	Penns. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut *4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up *13
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up *9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up ‡5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

TEXAS—2¾ cents or 2¾ percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ¾ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
* Signal Hill 26 gravity.
‡ Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$ 79	$.78	$.79	$.80	$.76	....	....	$.80	$.76	$.76	$.77	$.78	.....	$.70	....	$.70	$.70	$ 70	....
15-15.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
16-16.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
17-17.9	.80	.79	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
18-18.9	.80	.79	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
19-19.9	.82	.79	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	.....	.70	.78	.78	.72	.70	
21-21.9	.88	.79	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	$.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	....	.99	.91	.96	.85	.96	.82	.....	.84	97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	....	1 02	.95	....	.89	.99	.86	.....	.88	1 01	.98	.90	.83
26-26.9	1.06	1 00	1.07	1 09	1.16	1 06	.98	....	1.05	.98	....	.92	1.03	.90	.....	.91	1 06	1 02	....	....
27-27.9	1.10	1.05	1.11	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	.95	.....	.95	1 10	1 06	....	....
28-28.9	1.14	1.10	1.14	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	.99	.....	.99	1.15	1.10	....	....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1 17	1.12	....	....	1.09	....	1.03	1.14	1 03	.....	1.02	1 20	1.14	....	....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1 21	1.17	F.O.B.	....	....	....	1 07	1 17	1.08	.....	1 06	1 25	1.18	....	....
31-31.9	....	.....	....	1.24	Line	1 24	1 22	Ship	....	Kettleman Hills		1 11	1 21	1 12	.....	1.09	1 29	....	....	....
32-32.9	....	....	....	1.27	....	1.27	1.27	....	Kettleman Hills			1.14	1.25	1.16	.....	1 13	1.34	....	....	....
33-33.9	....	....	....	....	....	....	1 32	$.128	1.19			1.18	1.28	1.20	.....	1.17	1.38	....	....	....
34-34.9	....	....	....	....	....	....	1 37	1.32	....	1 23	....	1 22	1.32	1 25	.....	1.20	.....	....	....	....
35-35.9	....	....	....	....	....	....	1 42	1.35	....	1 27	....	1 25	....	1 29	.....	....	.....	....	....	....
36-36.9	....	....	....	....	....	....	1.46	1.39	....	1 31	....	1 29	....	1 33	.....	....	.....	....	....	....
37-37.9	....	....	....	....	....	....	1.51	1.43	....	1 35	....	1 32	....	1 37	.....	....	.....	....	....	....
38-38.9	....	....	....	....	....	....	1.56	....	....	1 39	....	1 36	....	1.42	.....	....	.....	....	....	....
39-39.9	....	....	....	....	....	....	1 61	....	....	1.43	....	1 40	....	.....	.....	....	.....	....	....	....
40-40.9	....	....	....	....	....	....	1.66	....	....	....	....	1.43	....	.....	.....	....	.....	....	....	....

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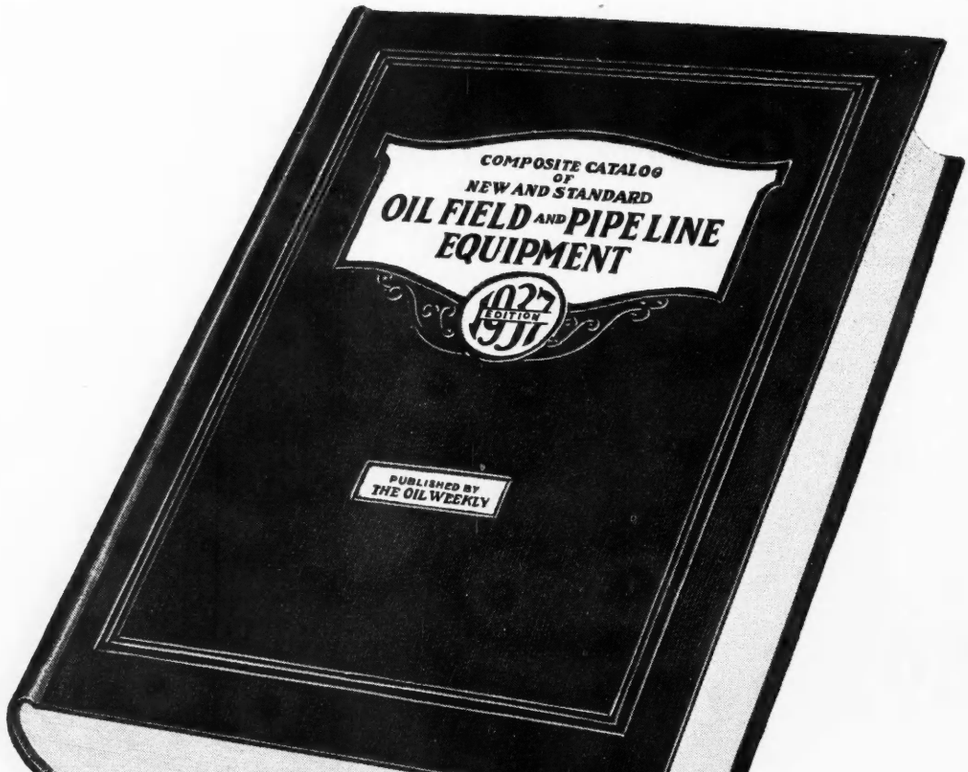

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Wildcat Flowing

NEW FIELD OR EXTENSIONS FOUND IN SEMINOLE COUNTY

WEEKLY STAFF REPORT

Tulsa.—Either a new Cromwell sand pool for Seminole County or an extension of the area uncovered last October is indicated by the test of Wrightsman Oil Company's May 1, SE SW SW 25-10n-7e, which is shut down awaiting installation of a new separator. The well began spraying oil early last week along with 25,000,000 cubic feet of gas. On a test the separator filled with sand and the well flowed wild 15 hours before it could be brought under control. The flow was estimated at 100 barrels an hour from the Cromwell sand, found at 3635 feet and drilled six feet.

This well is a mile north of the Cromwell sand producer of Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Yarhola 1, NE NW NW 36-10n-7e, which was completed October 18, this year, in the Cromwell sand from 3616 feet to 3638 feet. Its initial flow was 235 barrels a day.

Two years ago Wrightsman Oil Company drilled a dry hole in the NWc NW SE 25-10n-7e, half a mile northeast of the new well.

The area is midway between the East Seminole pool and the Cromwell pool. Each being six miles distant. The Bethel pool is three miles to the southeast.

Elsewhere in the Seminole area extension wells and substantial producers within the Fitts pool made up the outstanding developments.

The farthest northeast test in the Fitts pool, E. H. Moore, Inc., et al's Deaner 1, NW SW SE 23-2n-7e, which refused to flow when first opened, flowed 117 barrels of oil in 20 hours on gas lift during the latter part of the week. The well was drilled to 4430 feet in the Bromide lime and acidized with 10,000 gallons.

Another important test in the area is Phillips Petroleum Company's Bates 2, NW NE NW 26-2n-7e, which flowed 2409 barrels of oil in 15 hours while drilling in the Hunton lime at 3585 feet.

Heenan & Coe's Wooley 1, SW NW SW 22-2n-7e, received a 24-hour potential of 1943 barrels of oil and had 1,429 cubic feet of gas from the Viola lime at 4340 feet. The test was acidized with 3200 gallons and later with 8000 gallons before producing.

Further defining the northern limits of the field, Magnolia Petroleum Corporation's Norris 8, SW NE SE 21-2n-7e, flowed 375 barrels of oil in one hour through casing following acidization. It was then shut in to take potential. Production was coming from 3940 feet in the Hunton lime.

Vierson Oil Company's Jones 2, NW NE NW 11-6n-6e, Seminole County, topped Turman sand at 2397 feet and cored from 2396 to 2405 feet recovering eight feet of sand and shale. Five feet of the recovery was well saturated sand, the remaining three feet consisting of shale. Seven-inch casing was set at 2397 feet and the well shut down, waiting on a machine. It will be drilled in with standard tools.

Wood Oil Company's Ashby 2, SW SE NE NW 22-7n-5e, pumped 60 barrels of oil December 14, 65 barrels in 18 hours December 15, and only 28 barrels in 9 hours December 16.

Complete Fitts Wells

Several wells were completed and others given potentials in the Fitts field. Simpson-Fell Oil Company's Westheimer 5, NWc SW 26-2n-7e, was completed for a 24-hour potential of 919 barrels of oil from the Simpson. The same company's Westheimer 3-A, SE NW NW 26-2n-7e, topped Hunton lime at 3373 feet and drilled to 3745 feet where it flowed 208 barrels of oil in one hour through tubing.

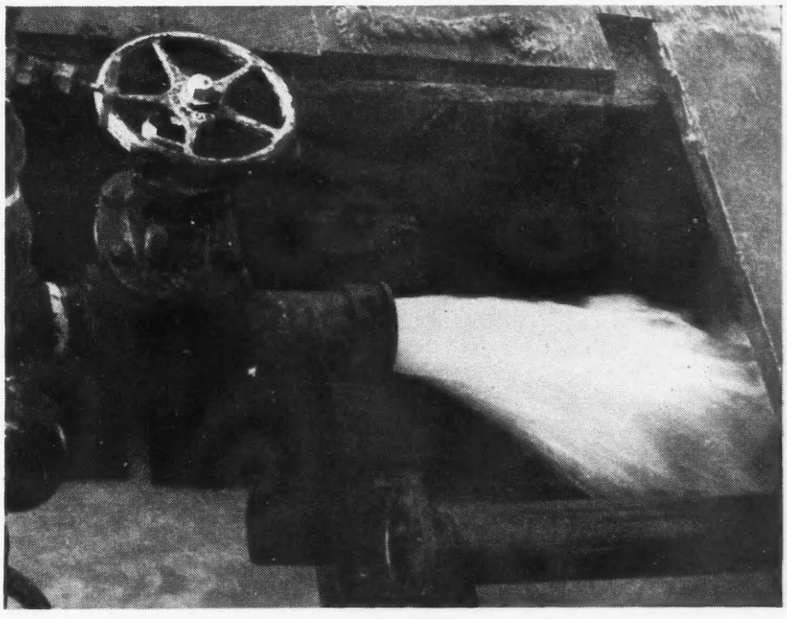
Blackstock Oil Company's Kirby 1-A, SW NE SE 22-2n-7e, flowed 156 barrels of oil in one hour through tubing and had 1,750,000 cubic feet of gas. Production was from the Hunton lime at 3882 feet.

Amerada Petroleum Corporation's Smith 4, NW SE NW 28-2n-7e, was given a new potential of 2999 barrels of oil in 24 hours, coming from the Simpson sand.

Sinclair Prairie Oil Company's Burris 15, NE NW NW 27-2n-7e, flowed 224 barrels of oil in one hour through tubing; 392 barrels of oil in one hour through casing and was shut in to take potential. The well produced is in Hunton lime at 3550 feet.

Another new producer in the field is Carter Oil Company's Richards 22, SW SE SE 30-2n-7e, which flowed 350 barrels of oil in one hour while drilling, and 620 barrels of oil in one hour while pulling

The Worm Turns



No one can say how many hundreds of wells drilled for the purpose of finding oil have ended as good water producers. However, E. H. Moore, Inc., has reversed the hard and fast custom in a well that proved very unconventional. In drilling for water, oil was found. More specifically in drilling a well for water disposal purposes, oil was found in an upper horizon and an artesian water flow was encountered in the formations expected to serve as water intake zones. This occurred four miles north of the Fitts field in Pontotoc County, Oklahoma. The well is flowing 4000 barrels of sulphur water daily from the Wilcox and Oil Creek sands. Tests to determine if these horizons are capable of absorbing additional water have been inconclusive. The Hunton lime formation was penetrated at 340 feet, which is 300 feet higher than in the field, where it is productive. However, despite the shallow depth a 50-foot saturated section was discovered and now a twin well is being started to determine the producing possibilities. The unconventional well is known as Waite 1 and is located in NWc B-2n-7e, which is on the Lawrence Uplift and across the Stonewall fault from the Fitts field.

tools. Production was coming from 4370 feet in the Dense lime.

In the Jesse pool of Pontotoc County, a well which continues to attract much attention is Continental Oil Company's Thompson 1, SW NW SE 2-1n-7e. It topped Viola lime at 4120 feet and drilled to 4210 feet in the same formation. The test flowed 500,000 cubic feet of dry gas with no oil showing at 4140 feet.

Ramsey Petroleum Corporation's Johnson 1, NW SW SE 9-3n-7e, south of the East Ada district, cored from 943 to 949 feet and recovered six feet of sand and shale, and a stain of oil. In another core taken between 972 and 989 feet, it recovered 13 feet of shale. A core from 1064 to 1069 showed four feet of sand bearing both oil and gas. When opened for 20 minutes, the well showed 1,500,000 cubic feet of gas. The last core, made from 1069 to 1079 feet, showed five feet of shale. Later in the week, the well topped Hunton lime at 1519 feet and cored from 1522 to 1525 feet. A drill stem test was taken and the well opened for 20 minutes, having 150 feet of mud and a show of oil. After coring from 1538 to 1542, four feet of dry lime was recovered and the well was drilling ahead below 1635 feet in lime.

Fleetborn Drilling Company's Tanner 1, NWc SE 28-17n-5e, south of Cushing in Lincoln County, flowed 34 barrels of oil in 10 hours and was making about five percent water. The crew was trying to shut off the water. Later in the week, the well was opened and flowed 10 barrels of oil with only 2½ percent water. Tubing was pulled December 13.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Harris 1, SW NW NE 8-6n-8e, in the Sasakwa area of Hughes County, was drilling below 4288 feet, heading for the second Wilcox sand. A drill stem test was taken at 4272½ feet and 1500 feet of mud and salt water flowed into the hole in 40 minutes. Packing was set at 4263 feet, and the first Wilcox sand found at 4257 feet, was dry.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Skelly, Miller 1, ne nw ne 5-1s-3w..	88	2806
Magnolia, Mills 10, nw nw ne 27-2s-3w (otd 2249)	25	2575
Schermerhorn, Fee 36, sw sw ne 5-4s-3w	60	1065
Carter, Ward 37, se ne nw 6-4s-3w (pb 1142)	80	1150
CLEVELAND COUNTY—		
Carter, Walker 1, sw ne sw 27-10n-2w	¶41½ & 29,984	7302
COAL COUNTY—		
Delaney, Sawyer 1-A, sw se nw 7-1n-8e	¶12	2152
CREEK COUNTY—		
Helvie & Stout, Land 6, se se se 2-18n-11e	12	1551
Sinclair Prairie, Ella Jones 15, csl sw nw 3-17n-7e	10	2641
Brady & Sons, Carothers 3, nw se se 18-19n-9e (pb 2250)	1	2462
GARFIELD COUNTY—		
Ohio Oil, Smythe 1, ne ne sw 23-22n-4w (pb 5199)	*	5449
GARVIN COUNTY—		
Cox & Hammon, Davis 7, sw nw se 32-1n-3w (pb 2388)	100	2860
Pure Oil, Baker 1, ne ne ne 7-2n-1e	*	5431
HUGHES COUNTY—		
Manahan Oil, Dixon "C" 6, ne ne ne 12-9n-8e	*	1822
JEFFERSON COUNTY—		
Bridwell Oil, Wohlgenmuth 6, ne se nw 30-6s-5w	64	1486
KAY COUNTY—		
Max Kelly, William Jones 1, nw nw nw 35-27n-4e	*	3160
LINCOLN COUNTY—		
Hilton Phillips, Graham 2, nw sw nw 2-14n-3e	85	4388
R. L. Kemp, Wright 1, nw ne se 26-17n-6e	*	2638
MUSKOGEE COUNTY—		
Geier Bros. et al, Howard 1-A, csl sw sw 19-15n-16e	*	1260
NOBLE COUNTY—		
Phillips & Shell, O'Neil 3, se sw se 16-23n-2w	¶¼ & 695	4263
OKFUSKEE COUNTY—		
Manahan & Deaver, Ewlly 1, se se se 13-10n-8e	*	1906
Chapman, Cudjo 6, nw se se 25-10n-8e	653	1751
Arkansas Royalty, Gardner 1, se sw ne 18-10n-9e	202	1906
Chapman & Atlantic, Natchee 3, ne nw se 19-10n-9e	27	1801
Sinclair Prairie, Fisher 2, se ne sw 19-10n-9e	5	1850
James, Morris 1, nw nw nw 29-10n-9e	*	41
Pure Oil, Rentie 4, ne nw ne 26-12n-11e (otd 2644)	386	3586
Vierson O&G, Lowe 2, cel se ne 28-13n-13e (otd 1751) (pb 1750)....	2	2007
Steighner, Colbert 3-A, se ne ne 14-14n-14e	5	1094
OKLAHOMA COUNTY—		
British American, Goddard 1, se sw nw 23-12n-3w	1849	6495
Phillips, Morley 1, sw ne nw 26-12n-3w	*	3707
Shadwick 1, sw ne nw 26-12n-3w..	*	3887
Slick-Urschel, Suneram 5, se nw ne 6-13n-3w	9058	6685
Blackstock Oil, Tegtmeyer 2, se ne se 36-14n-4w	¶7 & 5817	6698
OKMULGEE COUNTY—		
Texas Co., W. F. Meyers 5, nw sw ne 35-16n-11e	6	2787
Devonian Oil, Tiger 12, cse sw 24-16n-12e	¶½	653
OSAGE COUNTY—		
Ohio Osage, 6, ne ne ne 17-21n-9e..	80	295
Johnson O&R, 4, cwl, sw 17-21n-9e	*	515
Oklahoma Natural Gas, 1845, cw½ w½ nw 13-21n-10e	*	2196
Ray Branstretter, 1-A, nw ne ne 33-22n-11e	60	2053
Northern Oil, Philtex 60, sw se nw 22-25n-12e	5	1440
Magnolia and Empire, Bonto 4, sw se nw 23-26n-6e	2502	2970
PONTOTOC COUNTY—		
Fleetborn, Morin 6, nw se se 20-2n-7e	¶2¼ & 3208	4350
Akin Oil, Danials 2, se ne sw 21-2n-7e	¶1½ & 663	4317
Stahl Pet., Dennis 6-B, ne sw sw 21-2n-7e	5040	3946
Moore, M. Burris 1, se nw se 22-2n-7e (pb 4475)	53,064	4616
Sinclair Prairie, Wooley "A" 6, sw sw sw 22-2n-7e	¶2¾ & 4776	3550
Wooley "A" 7, ne sw sw 22-2n-7e	¶1¾ & 3124	4376
Skelly, Metropolitan Life 1, sw se sw 23-2n-7e	¶1 & 1739	4370
Phillips, Bates 1, sw ne nw 26-2n-7e	¶2½ & 1474	4355
Magnolia, Burris "A" 12, sw sw nw 27-2n-7e	¶2¼ & 4128	3598
Sinclair Prairie, Burris 16, nw ne nw 27-2n-7e	¶3 & 233	3505
Loval Drlg., Hardin 2-A, se sw nw 30-2n-7e	¶3¾ & 3816	3650
Magnolia, Hardin 8, ne nw ne 20-2n-7e	¶2½ & 2179	4374
K. D. & H. Oil, Gilmore 5, cwl se ne 29-5n-8e	*	930
POTTAWATOMIE COUNTY—		
Magnolia, Hardin 8, ne nw ne 30-7n-4e	35	4232
Tilico Company, J. Smith 2, se nw se 26-7n-4e (otd 4190)	130	4240
SEMINOLE COUNTY—		
Magnolia, Fee 1, sw sw sw 9-9n-7e.	110	3485
Sinclair Prairie, Thompson 4, se se sw 18-9n-7e	78	4117
Deep Rock Oil, Hagler 7, nw nw ne 19-9n-7e	90	3444
Creekmore et al, Campbell 2, nw nw nw 20-9n-7e (pb 4240)	312	4276
TULSA COUNTY—		
Anthony, Wilcox 2-A, nw nw nw 3-16n-12e	120	2276
Bu-vi-bar, Thatcher 1, ne se ne 27-18n-13e	7	587
Kroger, Haikey 2-A, se se se 32-18n-14e	*	1545

*Failures; †Junked; ¶Million cu. ft. gas.

NEW POOL FOUND

Wildcat produces from Wilcox at 5389 feet

Tulsa.—Shell Petroleum Corporation opened a new Wilcox sand pool in southwestern Noble County, Oklahoma, when testing Moelling 1, C SW NW 31-21-2w, December 18. During the first half hour the production was 195 barrels, during the second half hour, 105 barrels. The second hour of production was 195 barrels; third hour, 200 barrels; fourth hour, 195; fifth, 190; and sixth, 180 barrels; totaling 1250 barrels for the six-hour test. Gravity of the crude is 44.7 at 57 degrees.

Location of the new pool is three miles north of Lucien pool. Wilcox sand was topped at 5373 feet and was drilled to 5389 feet, with the last five feet showing for the best saturation. Moelling 1 is on a communitized block of 1040 acres with interest owned by Shell Petroleum Corporation, Sun Oil Company, Continental Oil Company and Sinclair Prairie Oil Company.

WATCH TILLMAN

Wildcat drilling deeper after swabbing test

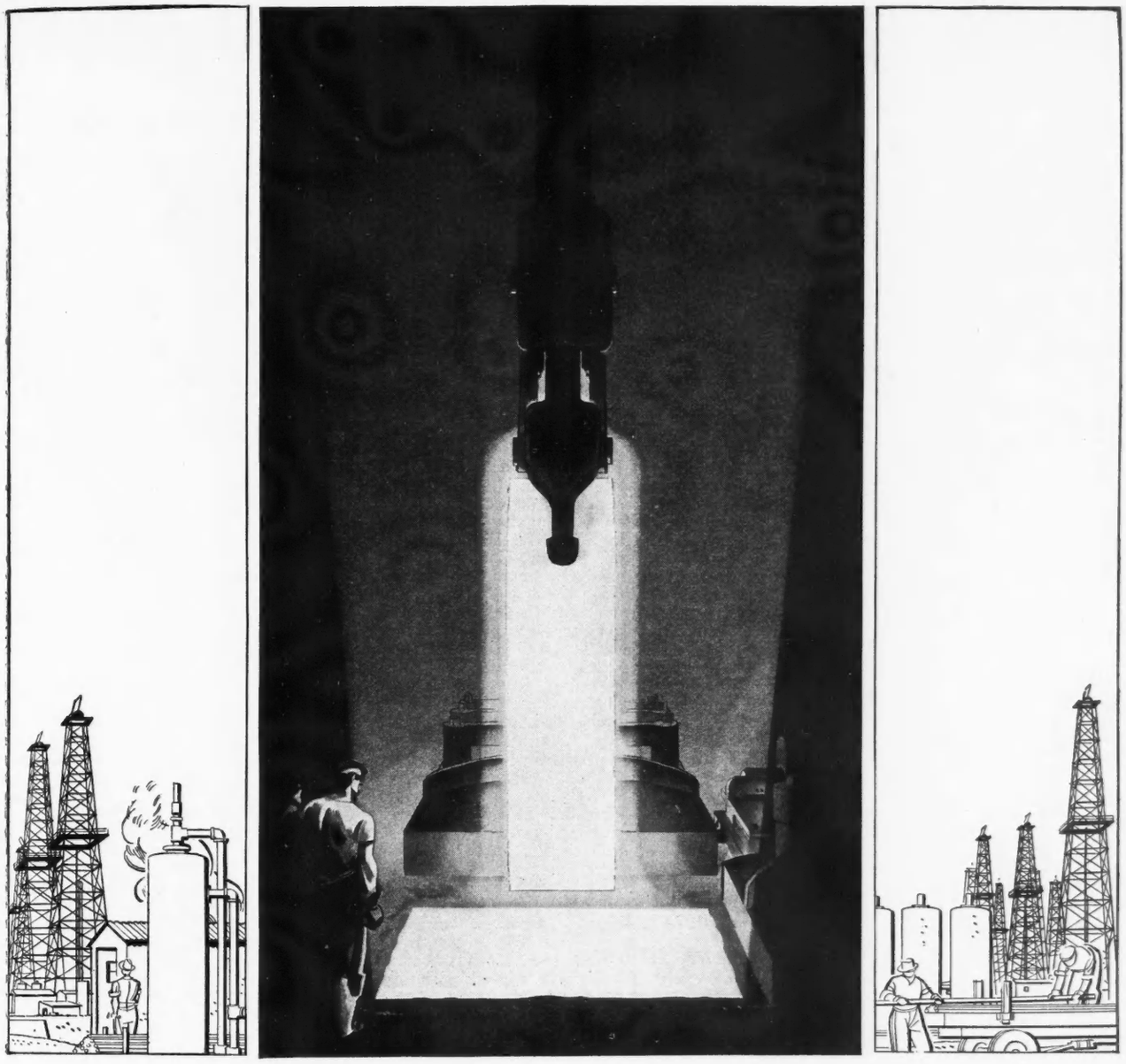
Ardmore.—Interest continues high in Southern Oklahoma's outstanding wildcat test, south of Frederick in Tillman County. Sharing honors with the test is a deep test in Carter County, which is swabbing with no show. Also of interest is the increased allowable for the deepest producing well in the sector, Carter Oil Company's Ruth Williams 1, Carter County.

Indian Territory Illuminating Oil Company and Foster Minerals Corporation's Hatler 1, C SW NW 33-2s-17w, drilled to 3816 feet, then plugged back to 3808 feet and tried to shut off the water but failed. The hole swabbed for 15 hours, getting 1825 barrels of water along with 75 barrels of oil. Drilling was resumed December 12 at 3808 feet, the well having plugged back to this depth after efforts to obtain production from the Pennsylvanian formations had failed. It is now continuing to drill ahead.

Many oil men are expressing disappointment over the results of Gulf Oil Corporation's Johnson 8, C SW SW 28-2s-3w, in the old Fox field of Carter County, which continues to swab with no oil showing. The test topped Hunton lime at 7361 feet, and drilled ahead to 7437 feet, but failed to produce, even after being treated with 20,000 gallons of acid. It was bailed down 5900 feet, but had no oil.

Little indication is shown that the Gulf well will be completed as a commercial producer, even though it is only one mile east and one 40-acre location south of the deep discovery well of the field, Carter Oil Company et al's Ruth Williams 1, in Section 27-2s-3w.

Carter Oil Company et al's Ruth Williams 1, SW NE SW 27-2s-3w, was pushed into the limelight last week when granted an increase in daily production. Under proration, the well was allowed 100 barrels of oil daily, but



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THERE IS NOTHING SUPERIOR TO SEAMLESS

under the new order, which was made effective December 1, 1936, the well has been given a daily allowable of 500 barrels of oil.

Power Oil Company et al's Lancaster Trust Company 1, C SW NE 10-1s-2e, near Davis in Murray County, is still rigging up rotary tools. It was drilled to 3203 feet in the Sylvan shale with standard tools.

McCasland and Schermerhorn Oil Company's Umsted 1, NWc NE 6-1s-8w, in the Duncan field of Stephens County, has been spraying oil and gas since fire destroyed the derrick two weeks ago.

Cox & Hamon's Wallace 1, SWc SE 32-1n-3w, in the Tussy field of Garvin County, a recent completion, swabbed 102 barrels of oil last week.

On the Carter County side of the field, Skelly Oil Company's Miller 1, NE NW NE 5-1s-3w, also a recent completion, is pumping 85 to 100 barrels of oil a day from broken sands had from 2615 to 2644 feet. Depth is 2860 feet.

BIG MOORE WELL
30,000-barrel potential rating given new well

Oklahoma City.—Two new good producers were added in central Oklahoma last week, with the rest of the reports taken up with routine drilling operations. One of the new wells was in the Moore pool of Cleveland County, while the other was in the Edmond pool of Oklahoma County. Other wells were in process of completing.

The new gusher in the Moore pool of Cleveland County was Sinclair Prairie Oil Company's Strauss 1, SWc 22-10n-2w, on the east side of the field, which rated a 24-hour potential of 30,063 barrels of oil and had 67,000,000 cubic feet of gas. It is the sixth completion on the community block operated by Sinclair Prairie. Six other tests are operating at the present time.

The same company's Holmes 1, NEc SE 28-10n-2w, topped the Wilcox sand at 7273 feet and made a potential gauge of 531 barrels of oil for the first hour, with 17,820,000 cubic feet of gas.

Its Franklin 2, SEc 21-10n-2w, drilled to 7297 feet and bailed in. The well was flowing an estimated 1000 barrels of oil per hour and had 120,000,000 cubic feet of gas. The crew was connecting up.

The company's Fant-Meyers 1, SE NW NW 27-10n-2w, cored from 7303 to 7312 feet and found the bottom 3 feet of the core was Wilcox sand with a good saturation of oil. It was to be cored ahead to 7316 feet.

The other good completion for the area was Continental Oil Company's Young 13, SWc NW 31-14n-3w, in the Edmond pool of Oklahoma County, which topped the Wilcox sand at 6656 feet and drilled to a total depth of 6701 feet. On a potential gauge, the well flowed 308 barrels of oil the first hour with 9,000,000 cubic feet of gas; 155 barrels of oil and 5,000,000 cubic feet of gas the second hour; 119 barrels of oil and 4,000,000 cubic feet of gas the third hour, and 112 barrels of oil and 4,000,000 cubic feet of gas the fourth hour. Total flow for the four hours was 692 barrels, thereby establishing a 24-hour potential of 4155 barrels of oil.

Three New Fields
BARTON HAS TWO STRIKES AND STAFFORD ONE

WEEKLY STAFF REPORT

Wichita.—The opening of three new oil pools; the extension of several established oil producing areas and the start of an interesting wildcat test in Stafford County were the featured activities in the Sunflower state last week.

First of the new pools was opened by Vernon Oil & Gas Company et al's Ainsworth 1, NEc SE 33-16s-13w, north of Hoisington in Barton County, which showed for production some two weeks ago. At that time it filled 3200 feet with oil in 12 hours after the plug had been drilled, and was later deepened six inches from 3395 feet. The well has established a potential of 1269 barrels of oil. The test is about seven miles from the nearest producing pool.

Definitely establishing another pool for Stafford County, Empire Oil & Refining Company and Atlantic Oil Producing Company's Jordan 1, SEc NE 27-25s-14w, pumped 462 barrels of oil in 24 hours from the Lansing lime at 3727 feet. Production followed acidization with 2000 gallons, the well cutting about two percent.

Also in Barton County, C. L. Price et al's Deutsch 1, NWc NE 16-16s-13w, north of Hoisington, gave that area another new pool, filling 2850 feet with oil in nine hours from the Siliceous lime at 3389 feet. It will have a production test later.

Large Warkentine Well

One of the largest producing wells in Kansas today is Empire Oil & Refining Company's Talbot 1, CW½ SW NW 1-23s-2w, in the Warkentine pool near Halstead in Harvey County. In the Mississisippi lime at 3993 feet, it was given a potential test and produced 10,771 barrels of oil initial. A later report from the area stated the well was given an official potential of 9591 barrels of oil. The farthest northeast producer in the pool, the well flowed 1010 barrels of oil in two hours and 15 minutes, the basis for the potential. Talbot 1 is an east offset to Shaffer's Dettweiller 1, recently completed for 2615 barrels of oil

Several Pools Extended

Skelly Oil Company's Dumler 1, SWc NE 1-14s-15w, has extended the Gorham pool of Russell County one-fourth mile east. The top of the Topeka lime was found at 2765 feet, and when cored from 2760 to 2772 feet, showed saturated lime. After setting eight-inch pipe at 2766 feet, the well pumped 779 barrels of oil in 16 hours on a test and started flowing at the rate of about 45 barrels of oil per hour.

Aylward et al's Johnson 1, NWc NE 17-21s-7w, apparently proves up the area between the Hauschild pool and the Saxman pool, as it is showing for a producer from the conglomerate between 3359 and 3390 feet. Estimates place production between 3000 and 5000 barrels. It is shut in for tankage and pipe line connection. Johnson 1 is one and one-half miles due west of the Hauschild pool and one mile southeast of the Saxman pool.

Empire Oil & Refining Company's Mauck 2, SEc NW 15-26s-9w, extended the Lerado pool of Reno County one location southeast when it was completed for 5819 barrels of oil from the Viola lime at 4161 feet, following acidization.

Shell Petroleum Corporation's Mary Whipple 3, NEc 15-26s-9w, was coring below 4137 feet, seeking the Viola lime, preparatory to rigging up standard tools.

Dickey Oil & Refining Company's Georing 4, NEc SE 17-21s-1w, was completed as the largest producer ever drilled in the Gorham pool of McPherson County. The well made 2429 barrels of oil on a potential test from the Siliceous lime at 3340 feet, after being acidized. It extends the northern boundary of the pool one location and is good for 2400 barrels of oil daily. Five other wells in the field have an average potential of 1000 barrels. The company has started work on another pipe line into the area to augment the nine-mile line already in use there. Continental Oil Company's Jetzke 3-A, NW SW SE 20-21s-1w, extended production one location west in the center of the field, filling 2000 feet with oil from the Hunton lime at 3325 feet.

Skiles et al's Leidigh 1, NWc SW 2-22s-11w, northeast of production in the Richardson pool of Stafford County looks like an extension well, having 200 feet of oil in the hole from the Siliceous lime at 3645 feet. Operators are having trouble with a caving hole.

Western Kansas Oil & Refining Corporation et al's Hertzler 1, C NW NW 13-23s-2w, which extended production one-half mile south in the Warkentine pool of Harvey County, was given potential of 2991 barrels of oil natural from the chat at 2979 feet.

Morgan & Flynn's Schroeder 1, SW NW SE 23-18s 16w, extended the Otis gas field of Rush County one-half mile to the east when it increased its gas flow from 24,000,000 cubic feet to 44,000,000 cubic feet and then flowed at the rate of from 2500 to 3000 barrels of oil daily. Production was coming from the LaMotte sand at around 3539 feet.

Hartman & Blair's Sullivan 4, SEc 1-14s-15w, in the Sullivan pool of Russell County, filled 1000 feet with oil after drilling to 3310 feet in the Siliceous lime. Operators were preparing to test.

The same operators deepened Roubach 1, SWc 25-14s-15w, the discovery producer in the Harbaugh pool, from the Os-

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KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Sinclair Prairie, Isern 5, nw se sw 25-19s-11w	*	3366
BUTLER COUNTY—		
McGinnis et al, Spinden 1, ne se se 5-23s-4e	42	2461
COFFEY COUNTY—		
Gillespie, Cochrane 1, ne ne se 14-23s-14e	100	1620
COWLEY COUNTY—		
Wakefield et al, Buckman 1, nw nw se 26-32s-3e	*	3495
Sinclair Prairie, Kukuk 22, ne nw ne 24-32s-4e	55	2366
Roth & Faurot, Guthrie 2, cnw 30-33s-8e	*	2805
McKnabb, Hunt 1, csw se 11-34s-3e	*	3525
ELLIS COUNTY—		
Piggott et al, Homberg 1, cne 33-11s-20w	*	3983
HARVEY COUNTY—		
Imo O&G, Sperling 1, se ne ne 23-22s-2w	¶73¼	3345
Tom Palmer, McBurney "B" 1, ce½ ne sw 2-23s-2w	3093	2998
Western Kansas O&G, Dreese 1, ce½ ne ne 2-23s-2w	4852	2993
MARION COUNTY—		
National Ref., Reamy 18, cn½ n½ ne 20-21s-4e	168	2068
McPHERSON COUNTY—		
T. C. Johnson, Lively 1, ne nw ne 20-19s-1w	¶5½	2995
Derby Oil, Arnold 3, sw nw sw 16-21s-1w	1316	3341
Ohio Fuel, Decker 6, sw ne se 20-21s-1w	1630	3339
Continental, Goering 4, se sw sw 29-21s-1w	948	3273
Sinclair Prairie, Krehbiel 3, ne ne se 4-21s-3w	60	3486
PAWNEE COUNTY—		
Kessler & Their et al, Shea 1, ne ne ne 22-21s-17w	*	4152
RENO COUNTY—		
Wilcox O&G, Neufeldt 3, ne sw nw 12-23s-4w	974	3430
Olson & Shell, Roberts 7, ce½ w½ 25-23s-4w	264	3257
RICE COUNTY—		
Continental et al, Ainsworth 2, nw sw se 24-18s-8w	1330	3222
Texas Co., Carl Kleile 4, sw sw sw 34-19s-10w	1804	3313
Atlantic, Wilcox 1, se se ne 13-19s-10w	*	3324
Tatlock, Drew 1, nw nw sw 5-20s-10w	1450	3316
Stanolind O&G, Specht 8, nw ne se 6-20s-10w	2644	3313
Tatlock, Berscheidt 14, sw sw nw 6-20s-10w	953	3372
Berscheidt 15, sw se nw 6-20s-10w	1188	3275
Deal O&G, O'Connell 1, nw nw ne 14-21s-7w	390	3384
ROOKS COUNTY—		
Jarvis & Strickland, Hamel 1, se se sw 7-8s-20w	*	3534
RUSSELL COUNTY—		
Bridgeport, Mills 2, sw se se 33-13s-15w	444	3315
Texas Co., Johnson 5, se sw ne 2-14s-15w	329	3141
Smokey Hill, Miller 7, se sw sw 30-14s-13w	1744	2903
Empire, Crawford 9, se nw sw 2-14s-15w	744	3315
Central Pet., Foster "B" 4, se se ne 3-14s-15w	1532	3305
Darby Pet., Dumler "C" 1, ne ne ne 11-14s-15w (pb 3311)	*	3329
W. I. Southern, Inc., Sellens 1, se sw sw 20-15s-13w	1063	3004
Boomhauer 1, se se ne 30-15s-13w	2125	3247
Sellens Heirs "A" 2, ne se sw 30-15s-13w	2629	3268
Michaelis 1, ne ne nw 31-15s-13w	2437	3270
Michaelis 2, sw nw nw 31-15s-13w	744	2909
Skelly, Neidens 1, nw sw ne 32-15s-13w	2621	3325
SEDGWICK COUNTY—		
Lauck, McLean 1, csw se 1-27s-1w	*	4700
STAFFORD COUNTY—		
Atlantic et al, Davis 1, se se sw 32-23s-12w	*	3985
WOODSON COUNTY—		
Nigh & Kilby, Hogueland 1, sw se ne 3-24s-15e	25	1496
Sheedy et al, Lee 2, nw sw ne 28-25s-14e	55	1467

*Failures; †Junked; ¶Million cu. ft. gas.

wald lime at 2918 feet to 3150 feet into the Gorham sand. It was completed for 991 barrels of oil.

Saco Oil Company's Furney 1, SE SW SW 23-14s-14w, in the Gurney Pool, has been established as the discovery well in the Topeka lime there, pumping 908 barrels of oil in 24 hours from 2790 feet.

Coralena Oil Company's Trapp 15, NE NW SE 30-15s-13w, in the Trapp pool, was given a potential of 2797 barrels of oil a day. Its Trapp 12, NW NE SE 30-15s-13w, is drilling below 1900 feet and its Trapp 16, SE NW SE 30-15s-13w, is drilling below 1000 feet.

Start Stafford Test

Oil men are watching with interest the starting of a test which is to be drilled three and one-half miles southeast of Stafford in that county. It is Stanolind Oil & Gas Company's Rosacker 1, SWc NE 5-25s-11w, three miles northwest of the discovery producer in the Neola pool, drilled by the Vickers Petroleum Company, but since abandoned. The new test is about midway on a cross trend between the St. John pool of Stafford County and the Lerado pool of southwestern Reno County. Location was staked and rig is being built.

Skelly Oil Company's Kipp 1, SEc NE 27-25s-14w, northwest of Pratt, was waiting on cement after plugging back from the Siliceous lime at 4250 feet, the old total depth, to 4118 feet in the Lansing lime to test a showing of oil.

Skelly Oil Company's Bloomer 2, NE SW NE 36-17s-11w, in the Bloomer pool of Barton County, pumped 2786 barrels of oil, being about 36 barrels more than the original potential of 2750 barrels. It remains the largest producer in the pool. In 24 hours, the well pumped 2733 barrels of oil. The total potential of the lease is 13,450 barrels of oil.

Hilligoss & Steinbuchel's Isern 3-B, NEc 12-20s-11w, southeast of Ellinwood, pumped 1706 barrels of oil natural from the Siliceous lime at 3301 feet early in the week. It was later completed for a potential of 1721 barrels of oil, making it the largest producer ever drilled on the discovery lease of the Isern pool.

Stanolind Oil & Gas Company's Brack 1, SWc 21-18s-15w, had an estimated 8,000,000 cubic feet of gas from the sand after deepening from 3509 to 3522 feet. Later reports state the gas was increasing.

In Reno County, Haynes Drilling Company's Mueller 1, NEc NW 30-24s-4w, in the Burrton pool, drilled to 3356 feet in the chat and got an estimated five to 10 barrels of oil an hour and 1,500,000 cubic feet of gas. Reports stated the well would be drilled deeper.

Gulf Oil Corporation's Schmidt 1, NEc SE SE 6-20s-10w, which extended production south in the Silica pool of Rice County, was completed for 725 barrels of oil from the Siliceous lime at 3342 feet.

Ohio Oil Company's Wilcox 1, NWc SW 18-19s-9w, an east offset to the discovery producer in the Doran pool, was reported to have had a showing of oil in the Siliceous lime at 3280 feet.

Two Rice County tests proved to be disappointments last week. Atlantic Refining Company's Wilcox 1, SEc NE 13-19s-9w, north offset to the discovery producer, was abandoned at 3324½ feet in the Siliceous lime. A northeast diagonal offset drilled by Gulf Oil Corporation was also a dry hole.

Tom Deal et al's Detter 1, NE SE SW 28-22s-7w, south of production in the Hauschild pool, topped Siliceous lime at 3910 feet and drilled to 3924 feet where the hole filled with sulphur water. Operators decided to abandon the well.

Sinclair Prairie Oil Company probably will plug and abandon Gentry 1, NEc 1-33s-15w, in Barber County which was shut down after plugging back to test a showing of oil had at 4250 feet in the Lansing lime. The test failed to get production though casing was perforated 120 times.

Atlantic Refining Company's Asher 1, SE N½ NW 31-20s-13w, southwest offset to the discovery producer in the Hiss pool of Barton County, started flowing 50 barrels of oil an hour after drilling into the Siliceous lime at 3267 feet.

McAnally, Bovaird et al's Dyck 3, NEc SW 8-22s-3w, in the Hollow-Nikkel pool of Harvey County, was completed for 649 barrels of oil from the Hunton lime at 3535 feet, following acidization.

4-WELL OBLIGATION

Fields to drill on permit in northern Eunice

WEEKLY STAFF REPORT

Hobbs, N. M.—A four-well drilling obligation has been assumed by Bert Fields, Dallas, in acquiring control of a 160-acre state permit in the north portion of the Eunice field from W. A. Hudson and Fred Turner. The latter are to be carried for one-fourth overriding royalty until the four wells produce the equivalent of $160,000 in oil and gas, then they will possess a 50-50 working interest. The first location will be at C SW NE 32-20s-37e, serving as a west offset to George F. Getty Oil Company's State 1-D, which was awaiting nitro shot and acid treatment in lime at 3868 feet, or 329 feet sub-sea.

Lea County accounted for eight flowing wells and seven new locations the past week. Completions and new operations dropped below the total reported the previous week.

Occupying the highest structral position in the Monument field, Amerada

NEW MEXICO

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Eunice Field)—		
Empire O&R Co., State 2-F, c ne se 30-20s-37e	2000	3835
Gulf Oil Corp., State-Orcutt 6, Lot 15, 6-21s-36e	215	3873
W. W. White 1, c se se 25-20s-36e	500	3845
LEA COUNTY (East Jal Field)—		
Shell Pet. Corp., J. F. Black 1, c nw se 21-24s-37e	1000	3501
LEA COUNTY (Monument Field)—		
Amerada Pet. Corp., E. S. Adkins 1, c sw sw 5-20s-37e	3000	3880
Conoco-California Co., H. M. Britt 1-A-18, c ne nw 18-20s-37e	3000	3880
J. L. Reed 5-A-3, se sw ne 3-20s-36e	2500	3925
Gulf Oil Corp., M. Love 2, c se se 32-19s-37e	250	3898

*Failures; †Junked; ¶Million cu. ft. gas.

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Petroleum Corporation's E. S. Adkins 1, C SW SW 5-20s-37e, flowed 71 barrels of oil per hour natural through open tubing from lime at 3880 feet, or 315 feet below sea level. The gas/oil ratio was 425 to 1. The upper section of the lime carried an unusually large volume of gas, and the rotary crew had trouble with crevices.

Monument Extended

Monument production was extended one location westward when Continental Oil Company and The California Company's J. L. Reed 5-A-3, SE SE NE 3-20s-36e, used 2000 gallons of acid solution in lime at 3852-3925 feet and boosted the production to 107 barrels of 33 gravity oil per hour flowing from 5½-inch pipe. Gas yield was rated at 1,975,000 feet daily. The partnership's H. M. Britt 1-A-18, C NE NW 18-20s-37e, south portion of the field, gauged 124 barrels of 32 gravity oil per hour flowing natural through casing with drill pipe in hole from lime at 3783-3880 feet. Gas flow was at the rate of 1,860,000 feet daily. Phillips Petroleum Company's Hobbs-Britt-Conoco 1, one half mile due south, did not fare so well and quit flowing after producing 346 barrels of cut oil in eight hours after using 5000 gallons of acid in lime at 3870 feet, or 322 feet sub-sea.

More Eunice Acreage Proven

Additional acreage in the north portion of Eunice field and on a direct trend towards the Monument field was proved for production the past week. Atlantic Refining Company's State-Catron 4-L, C Lot 4, 6-21s-36e, flowed seven barrels oil per hour natural from lime at 3850 feet, or 300 feet below sea level, and was awaiting acid treatment. Gulf Oil Corporation's W. W. White 1, C SE SE 25-20s-36e, responded to second treatment with acid at 3845 feet, or 302 feet sub-sea, with a flow of 86 barrels of oil in six hours through open tubing. Emprie Oil & Refining Company's State 2-F, C NE SE 30-20s-37e, flowed 65 barrels oil in six hours through open tubing after using 2000 gallons of acid at 3835 feet.

Half Mile South Eunice Extension

Production in the original South Eunice sandy-lime area was widened one-half mile westward when Empire Oil & Refining Company's Anna Walden 1, C SE NW 21-22s-37e, developed hole full of oil in drilling to 3581 feet, with an elevation of 3352 feet. A production test was deferred until lease tankage can be erected. It will require two offsets by Magnolia Petroleum Company and one by Tide Water Associated Oil Company.

South Jal Extended

In the South Jal dolomite lime area, Continental Oil Company and The California Company's J. S. Eaves 1-B-30, C SW NE 30-26s-37e, flowed 80 barrels oil by heads in 12 hours through 24/64-inch choke from lime at 3213 feet, with an elevation of 2945 feet. This well extends production south towards a semi-wildcat producer recently completed by Bert Fields et al in Winkler County, Texas. The Texas Company et al's C. W. Shepherd 2-A, C SW NW 6-26s-37e, failed to make an oil producer in plugging back from sulphur water at 3150 feet to 3077 feet, and has set temporary plug at 2988 feet.

Record Potentials

HENDERSON FIELD WELL FLOWS 220 BARRELS HOUR

WEEKLY STAFF REPORT

Midland, Texas. — Potential flow of completions from dolomite lime in the Henderson field, Winkler County, reached a new high mark early last week when Atlantic Refining Company and Wahlenmaier Petroleum Corporation's Fred Leck 3-E, NE NW SW Section 3, Block 26, gauged 220 barrels of oil per hour for four hours through open 2½-inch tubing at 3070 feet. The test was cut short to provide more storage. This record producer occupies the highest structural position in the field, according to reports, and logged top of brown lime at 2570 feet. Atlantic Refining Company recently purchased one-half interest in this 80-acre lease and two completed wells for $50,000 cash and is to drill two free wells.

Development of the new oil producing area opened up recently in northern Winkler County and on a direct trend between the Leck and South Jal dolomite areas by Bert Fields and others has spread to the southwest. Sun Oil Company is moving in rotary to drill W. P. Edwards 1, SE NE SW Section 6, Block C-23, PSL Survey, as its 160-acre lease requires production by February. Harry Adams, Bradley et al are drilling a southwest offset to the producer.

Seminole Water Table Fixed

The water table underlying the oil saturated lime logged by Amerada Petroleum Corporation et al's S. J. Averitt-Ohio 1-A, discovery oil producer for the Seminole structure, Gaines County, was established when the well was deepened from 5029 feet to 5054 feet, or 1736 feet below sea level. Increase in oil pay was recorded at 5033-5049 feet. Formation tester used at 5029-5054 feet showed 450 feet of oil and 360 feet of sulphur water in 45 minutes. The hole has been plugged back to 5029 feet, where it produced 81 barrels of oil in 10 hours on 1-inch choke before shut in for storage. Acid was used twice in pay at 5006-5029 feet before deepening. The junked gasser completed by Harry Adams, W. T. Walsh et al on this 40-acre site was ordered plugged last week as a result of the gas flow from the Yates zone having declined to 350,000 feet daily. A heavy flow of sulphur gas at 4910 feet was cut off last August as a safeguard against a blowout, owing to the condition of the hole.

A verdict on the importance of two tests drilling near Landreth Production Corporation's W. H. Kirk 1, small wildcat pumper in southern Gaines County, will materialize shortly. Stanolind Oil & Gas Company's J. A. Morrow 1, near C SW¼ Section 20, Block A-24, about four miles west by north of the producer, was drilling at 4150 feet, and checking about 150 feet higher on structure, according to correlation of the Yates sand. Amerada Petroleum Corporation's C. E. Robbins 1, C NW NW Section 9, Block A-22, located 1¼ miles south of the pumper, was in anhydrite at 3880 feet, having logged the top of the Yates at 2910 feet, or 345 feet above sea level. Based on this marker it is only slightly higher on structure than Kirk 1.

George F. Getty, Inc., a new entrant among the active organizations in West Texas, is making good progress on its two projects in Andrews County. R. H. Lindley-Conoco 1, outpost location for the Deep Rock field, was drilling at 1713 feet. The company's G. E. Moxley 1, C NW NE Section 15, Block A-45, PSL Survey, located on a wildcat block assembled by R. H. Gill and J. L. Greene, was drilling at 540 feet. Wm. Hanagan et al are attempting to finance a test on a wildcat tract offered by the Lotus Oil Company in Block A-48, PSL Survey.

Goldsmith Test Waits for Acid

Humble Oil & Refining Company's W. F. Cowden 1, C NW SW Section 30, an intermediate test for the main body and northwest extension of the Goldsmith field, Ector County, was awaiting acid treatment after gauging 158 barrels initial through tubing following a 300-quart nitro shot at 4185-4275 feet. The hole is bottomed at 4278 feet, or 1083 feet sub-sea. It is near the water table for the area. Manson Oil Company, Chickasha, Oklahoma, is launching its first try for production in West Texas by assuming a drilling obligation in the Goldsmith northwest extension area. The company acquired the H. E. Cummins 80-acre lease, embracing W½ NW¼ Section 24, Block 45, T-1-N, from J. L. Crump et al, and contracted to drill four wells, carrying the latter for one-fourth over-riding royalty for five years. Then the property will be on a 50-50 working interest basis.

Sinclair Prairie Oil Company has made a location for J. L. Johnson 2-A, SW SW SW Section 48, Block 43, T-1-S, Ector County semi-wildcat. It is 2 1/3 miles southwest of Johnson 1-A, which was recently abandoned at 6098 feet. The new test is likely to score a two-mile north extension for the Foster field and contribute towards the eventual linking of Landreth Production

Corporation's Johnson 1, wildcat producer, with the Foster area.

Ohio Oil Company's M. H. Goode 1, northeastern Terrell County Ordovician lime test, was drilling in sandy-shale below 7300 feet, according to late reports, and is now the deepest active test in West Texas. Gulf Oil Corporation's W. N. Waddell et al 2, second Ordovician lime project for the Sand Hills field, Crane County, failed to clean itself after an 80-quart shot in Simpson zone at 6145-6180 feet, and is drilling out a sand bridge. It was plugged back from 6709 feet to 6186 feet.

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means Field)—		
Humble, R. M. Means 9	325	4565
CRANE COUNTY (McCamey Field)—		
Bert Fields et al, A. Gibbs-Conoco 1	321	2260
Texas Consolidated Oil Co., Hughes-TT Co. 2	818	2068
E. M. Thomason Producing Co., N. N. Durham 1, sec 82	*	2605
ECTOR COUNTY (Foster Field)—		
Weekley Oil Corp., E. F. Foster 1	673	4231
FISHER COUNTY (Wildcats)—		
Forest Development Co., A. M. Dry 1	*	4537
Southern Oil Corp., J. S. Edwards 1	*	3364
GLASSCOCK COUNTY—		
Conoco-Group 1 Oil Corp., Settles 20-S	242	1255
HOWARD COUNTY—		
Chester Oil Co. (was Joe Rush), Dodge-TT Co. 3	466	2923
G. H. Johnson et al, Hyman-Magnolia 1	25	1328
Iron Mountain Oil Co., C. D. Read 12	*	2790
Shasta Oil Co., Dodge 9	853	2739
JONES COUNTY—		
Empire O&R Co., J. D. Winkles 1	*	2015
PECOS COUNTY (Masterson Field)—		
United Oil & Mining Co., W. R. Jones 3	2	1776
PECOS COUNTY (Pecos Valley Field)—		
Mid-Continent Pet. Corp., Jasper Co., Realty 1	45	1630
McCULLOCH COUNTY—		
Harris & Meyer, Brooks 1	*	978
UPTON COUNTY (McCamey Field)—		
O. S. Brewer & F. Smith, Inc Cordova Union 1	126	2063
Gulf Oil Corp., J. H. Shirk 5	995	2295
J. H. Shirk 2-B	210	2658
WARD COUNTY—		
Geo. R. Bentley et al, Elliott 1	¶3	2620
Bond Oil Corp.-L. C. Harrison, C. C. Dorr 1	400	2450
Empire O&R Co., McDonald 15	572	2462
G. T. Hall et al, Patton-Shell 1	450	2355
Humble, L. Richter 10	761	2933
Republic Prod. Co., C. R. Fox 4	314	2275
Sinclair Prairie, G. P. Hill 5	381	2490
WINKLER COUNTY (Brown-Altman Field)—		
Gulf Oil Corp., O. Clapp 5	287	3123
Illinois Oil Co., Abilene State Bank-Conoco 5-B	1058	3140
WINKLER COUNTY (Halley Field)—		
Eastland Oil Co., Halley 1-B	420	2866
WINKLER COUNTY (Henderson Field)—		
Atlantic Ref. Co.-Wahlenmaier Pet. Corp., Leck 3-E	12,000	3070
Sinclair Prairie, Fred Leck 5-A	900	3100
WINKLER COUNTY (Sayre Field)—		
Empire O&R Co., L. Daugherty 6	688	3028
Gulf Oil Corp., Daugherty 12	469	3000
Humble, N. R. Colby 4-C	1045	3050
W. A. McCutcheon 4	¶15¾	2802
Illinois Oil Co., McCutcheon-Conoco 4-A	405	2980
Magnolia, J. B. Walton 45	475	2992
J. B. Walton 46	449	2927
Mid-Continent Pet. Corp., Walton 10	960	2960
Monday Oil Co.-Bert Fields, Abilene State Bank-Conoco 7	1313	2979
Siosi Oil Corp., J. C. Lovett 4	550	3137
WINKLER COUNTY (Scarborough Field)—		
Illinois Oil Co., W. F. Scarborough 1-C	*	3185

*Failures; †Junked; ¶Million cu. ft. gas.

BRYSON ACTIVE

Collin County Paluxy test has favorable show

Wichita Falls, Texas.—The Strawn sand horizon in the East Bryson field, Jack County, has forged to the front in recent weeks as the largest contributor of new production in the North Texas district. There are 15 rigs in operation in the area which produces high gravity oil from the 3000-foot level, and independents are carrying on all the field work. New wells generally range from 300 barrels to 500 barrels initial, but flush yield declines rapidly. Gwynn, Overby and Oil Industries Inc.'s W. B. Love 3, NWc of Lewis Knight Survey A-324, proved additional acreage between production, flowed 78 barrels hourly on preliminary gauge from sand at 2961-84 feet and at 2990-2995 feet.

Dewey M. Knox et al's Jarnigan 1, first deep test for the Kisinger field, Young County, developed 1500 feet of oil in the hole in 6 hours when deepened from regular pay at 2568 feet to Marble Falls sand zone at 3995-4010 feet. It is in the J. Conner Survey A-57, and looks promising for commercial production after shot.

Sinclair Prairie Oil Company and Sunray Oil Company's A. C. McCall 2, Ordovician lime test for northern Cooke County, was logging dark shale while drilling at 7820 feet late last week. Owners propose to carry this wildcat to 8500 feet, if necessary to reach the equivalent of Oklahoma's Wilcox series, according to reports. In Grayson County, Olson Drilling Company, Jas. H. Gardner, Broswood Oil Company et al's D. R. Utiger 1, Ordovician lime test for the Preston Anticline, passed out of the hard chert and lime section and was drilling in black shale at 1860 feet. Top of the chert was logged at 955 feet, with an elevation of 722 feet.

Production test was in progress late last week on E. A. Parkford et al's Mrs. W. L. Fagg 1, northeastern Collin County Paluxy sand prospect, after plugging back from 2771 feet to 2685 feet with cement. Favorable saturation was logged in Paluxy sand zone, topped at 2661 feet, with an elevation of 626 feet, but the well showed fresh water with only a trace of oil when tested through 7-inch pipe cemented at 2655 feet. Cliff Camp Drilling Company, Dallas, is contracted to carry the test to 3500 feet in the event the upper Paluxy zone fails to yield oil in commercial quantities.

In Denton County, Bolivar Drilling Company's J. P. Knox 1 logged trace of oil in sand at 1538-1539 feet, and is credited with having showed a small amount of gas through drilling fluid when plugs were drilled from casing landed on top of the sand. Swabbing test was due late last week.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Gulf Oil Corp., B. F. Block 10	632	3100
GRAY COUNTY—		
Empire O&R Co., W. C. Archer 5-B	559	3220
Kewanee O&G Co., I. B. Hughey-Gulf 3	284	3030
Magnolia, E. Haggard 5	645	3301
R. J. Sailor 2	618	3230
Vulcan Pet. Corp., M. H. Kinnard 2-A	161	2334
Warner Oil Co., E. B. Reeves 1	†	2995
HUTCHINSON COUNTY—		
Gulf Oil Corp., H. C. Pitcher 8	127	3195
J. M. Huber Pet. Co., Albertson-Johnson 1	¶20	2655
Power Pet. Co., R. A. Starnes 1	200	3120
WHEELER COUNTY—		
Cub Oil Co., L. Major 1	15	2449
Skelly Oil Co., L. H. Cullum 1	¶7.7	2700

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Browning & Presley, C. J. Long 1, blk 94	*	1414
L. T. Burns et al, J. H. Turbeville 1-L	25	1433
Golding & Cochran, B. R. Jeske 5, sec 6	*	1180
CLAY COUNTY—		
Alexander Goldsmith et al, Byers-Rutledge 1, blk 28	*	1818
Metzner & Burns, Thornberry 14, blk 5	10	335
COOKE COUNTY—		
Anderson-Kerr Pet. Co., Wilson 6	*	2090
Dove Oil Co., J. A. Carr 4	213	1962
Harrison & Dillard, R. W. Trew 10	130	1205
Mudge Oil Co., S. D. Meadors 4	16	1556
Woodbine Oil Co., Potter & Potter 2	*	2340
JACK COUNTY—		
G. M. Gillespie et al, G. M. Helvey 2	126	3033
Gwynn, Overby & Oil Industries, Inc., W. B. Lowe 3	1800	2995
Thos. D. Humphrey et al, J. M. Birdwell 1	238	3038
J. M. Birdwell 6	442	3035
Josaline Prod. Co., R. H. Eatherly 2	500	3003
Mullendore, Berry & Berry, Chambers 2	542	3053
Ponder & Jones, C. C. Bloodworth 1	*	324
MONTAGUE COUNTY—		
The Texas Co., A. B. Hinton 6	53	780
WICHITA COUNTY—		
Continental Oil Co., Waggoner Bros. 16-C	105	1868
King Oil Co., M. M. Stone 1	153	1626
Waggoner Est. 10-J	48	1464
Pois & Schulz, Foster-Allen 3-A	100	1280
Geo. Proctor et al, T. L. Burnett 1, sec 1	*	822
Sussex Oil Co., L. F. Potter 3, blk 6	20	1880
S. H. Walton et al, S. Wiseman 4, sec 24	2	831
WILBARGER COUNTY—		
King Oil Co., Waggoner Est. 2-P, sec 27	22	2136
Lido Oil Co., Waggoner Est. 16, sec 50	8	2732
YOUNG COUNTY—		
C. E. Beavers et al, I. H. Gathright 1, sec 1801	*	878
Butler, Calhoun & Boynton, Benson 1, sec 1398	*	1002
Cable Oil Co., & Prideaux, Prideaux 3	*	645
B. C. Gilmore et al, S. Bagley 1-A	*	620
B. C. Gilmore & Bohner, G. P. Stewart 1, blk 4	*	610
Hamilton Pet. Co., J. K. Jeffery 19, sec 53	15	834
Kimmell, Lee & Co., Prideaux 3	25	657
Lupton & McLester, Medlin 1	750	3708
J. E. McDonald et al, E. W. Hunt 1, sec 182	*	962
J. K. Jeffery 5, sec 58	40	821
Panhandle Ref. Co., R. O. Prideaux 14	5	755
E. C. Reed et al, H. P. Cunningham 4, sec 3404	*	539
Schmidt Bros. et al, R. O. Andrews 7, sec 1399	40	923
Swink & Skinner, Mrs. A. E. Logan 3, sec 2251	*	640
White & Duncan, Prideaux 3-A	10	751

*Failures; †Junked; ¶Million cu. ft. gas.

Plan Important Tests

WILL HAVE BEARING ON EAST TEXAS DEEP WORK

WEEKLY STAFF REPORT

Tyler, Texas.—Exploratory tests to the lower Trinity horizon, or the equivalent of the Rodessa field's oil and gas zones, will be drilled on a number of prospective structures in the East Texas Basin during 1937. Two contracted tests on the Mexia-Talco fault in Hunt County, the first deep try for production in the Long Lake field, Anderson County, and one test each for the Blackfoot structure, Anderson County, and the Opelika geophysical prospect, Henderson County, afford a wide range of operations. The outcome of these five scheduled tests will have considerable bearing on future deep wildcat operations in the Woodbine belt, as they involve what may be termed the most promising "bets" lined up by geologists. Except for the Long Lake area, all are condemned for production in the Woodbine zone. The Talco and Sulphur Bluff faulted structures, which produce from the Paluxy, do not have lower Trinity tests scheduled for 1937.

Humble Oil & Refining Company's O. L. J. Easter 1, eastern Rains County Trinity test, was drilling below 6500 feet in upper Glen Rose lime late last week. It tested salt water in Paluxy sand series, topped at 6079 feet, or 5641 feet below sea level.

The Blackfoot structure, Anderson County, which has been popular with the majors for some years because of its unusual features pictured by geophysical surveys, will be tested for production in the entire Trinity section. Tom F. Hunter, Wichita Falls, and American Liberty Oil Company, Dallas, have financed a deep test and awarded contract to drill in the southeast corner of the George E. Cage 160-acre tract, Bird Gilbert Survey. Two majors are credited with having subscribed $20,000 each toward the cost. In southwestern Anderson County, the Long Lake field is assured of a Trinity test through Tide Water Associated Oil Company and Seaboard Oil Corporation, discoverers of the Woodbine oil and gas producing horizons, having started rigging up rotary to drill Monnig Bros. 7, located near the top of the structure and 1866 feet north of Monnig Bros. 2, a gasser. The partnership has completed two gas and distillate producers in the lower Glen Rose zone near the 7300-foot level in the Cayuga field, northwestern Anderson County. These wells are more profitable than oil producers in the Woodbine, since the partnership has a contract to dispose of a large volume of gas, and in making gas deliveries considerable high-gravity distillate is produced without being subject to proration restrictions. The Long Lake deep test will probably have to drill to about 8500 feet, or approximately 3200 feet deeper than the two Trinity producers at Cayuga, in order to reach the lower Glen Rose, unless considerable thinning develops in the upper Trinity.

In Hunt County, Superior Oil Company of California et al will spud shortly on a contracted lower Trinity test previously announced for the southeast corner of the P. D. Paul 183-acre tract, Mary Latham Survey, 4½ miles northeast of Quinlan. Moncrief & Showers Inc., Ed Hyde and W. L. Pickens are being carried for an undivided one-half interest in the first test. Stanolind Oil & Gas Company, owner of a large block in eastern Hunt County, has made tentative location on the L. B. Moore 92-acre tract, R. Ragsdale Survey, 2½ miles west of Campbell, for its contracted Trinity test. An official of the company stated late last week that location had not been definitely selected, and that operations would not be started for several months.

TALCO RATES NINTH

West flank development renewal appears likely

Mount Pleasant, Texas.—The Talco field now rates ninth position on daily production among the individual fields within the state, although it will not complete its first year until March 15. Production for the week ending 7 a.m. December 14 averaged 12,268 barrels daily from 153 flowing and pumping wells. The field is prorated on a flat well allowable of 85 barrels daily, but a number of producers are not making their quota.

Renewal of development of the west portion of the Talco field is due to follow the successful completion of Magnolia Petroleum Company and Humble Oil & Refining Company's O. S. Maxton 1, SWc of a 160-acre lease, Wm. Evans Survey, from broken Paluxy pay at 4226-4289 feet. The well pumped and flowed 405 barrels initial, and did not show water. The hole is bottomed at 3916 feet sub-sea. The rig has been skidded one location north for a second test. It is an east offset to Humble Oil & Refining Company's P. J. Dawson 1, which made 170 barrels of 22.3 gravity oil on initial pumping gauge from Paluxy at 4284-4330 feet, and developed four percent salt water. Dawson 1 was drilled to 3958 feet sub-sea, and in all probability pulled water from a south offset that logged water sand at 3968 feet sub-sea and junked the hole in trying to plug back. The showing made by these two early tests temporarily spiked all interest of operators in developing leases further west.

A few of the independents at Talco are financing their drilling operations through the sale of oil payments along the line so successfully followed during the early stages of development of the East Texas field. A recent transaction of this kind involved two Talco town lots obtained for the drilling of two wells and carrying the original lease owner for one-fourth over-riding royalty. The assignee completed the first well, then sold a $40,000 oil payment, payable from one-fourth of the production, for $20,000 cash.

Two Due at Sulphur Bluff

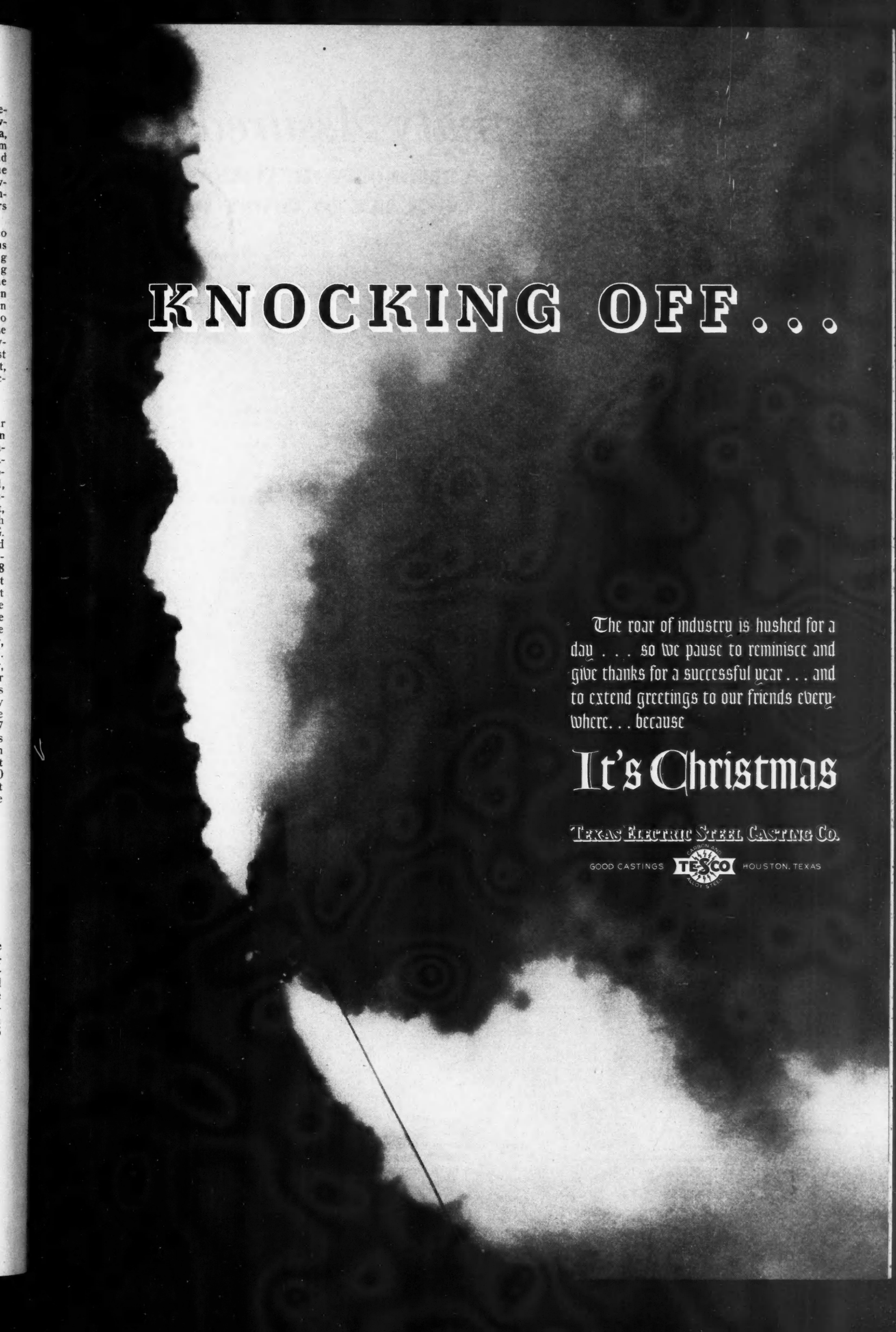
Two new producers for the Sulphur Bluff field, Hopkins County, were in process of completion last week. Empire Oil & Refining Company, first major to take part in the field's development, was testing J. E. Worsham 1, west offset to production on the discovery lease, after drilling to 4550 feet, or 4120 feet below sea level. Dilworth S. Hager and W. P. Luse's J. G. Reynolds 1, SEc of a 200-acre lease and 660 feet west and south of nearest production, logged Paluxy pay at 4473-4508 feet, and cemented seven-inch pipe at 4473 feet. This outpost was halted at 4088 feet sub-sea. It logged a negligible thickness of Georgetown lime because of having cut through the fault plane to the upthrow side at 3860 feet. Hager, Luse and Russ Petroleum Company's J. E. Worsham 7, westernmost producer, increased its flow from 11 barrels per hour through open tubing to 13 barrels per hour through ⅜-inch choke by shortening the string of tubing one joint. Pay zone was logged at 4479-4517 feet, with an elevation of 427 feet. This producer did not enter the Georgetown until the 4250-foot level, and cut through the fault between 4280 and 4290 feet. A location to the north or west would likely find a portion of the Paluxy cut out by the fault.

COMPLETIONS OFF

But East Texas field work again increasing

Tyler, Texas.—Completions in the East Texas field declined to 37, including a failure, the past week after averaging about 7 new wells daily several weeks previous. Field operations have taken an upturn, possibly in anticipation of higher crude prices early in January, and a late survey shows 65 rigs in service.

Magnolia Petroleum Company's W. L. Fuller 4, SEc of 50-acre lease, S. Sanchez Survey, doubtful location on the east edge of production in northern Gregg County, encountered a good body of sand at 3630-3638 feet, using cable tools, and flowed 32 barrels oil in 10 minutes through casing. It later flowed 100 barrels per hour through 2-inch tubing choke, with 110 pounds


KNOCKING OFF . . .
The roar of industry is hushed for a day . . . so we pause to reminisce and give thanks for a successful year . . . and to extend greetings to our friends everywhere . . . because
It's Christmas
TEXAS ELECTRIC STEEL CASTING CO.
GOOD CASTINGS
TESCO
HOUSTON, TEXAS

working pressure, and 200 pounds pressure on closed casing. Magnolia Petroleum Company's W. B. Kee 5, located on south line of 56.41-acre lease, a short distance southeast of Overton, showed 20 percent salt water in pumping 10 barrels of oil per hour from sand at 3782-3783 feet. The well is bottomed at 3321 feet sub-sea.

EAST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Cockburn & Boase, Inc., A. Green 8 (37.3-ac)	4000	3790
E. T. DeArman & W. R. Skeen, Rogers-Tipps 2 (50-ac)	288	3605
W. H. Gant-Garvin-Wegener, W. P. Moore 24 (134.24-ac)	800	3555
Humble, C. J. Thompson 23 (116-ac)	5600	3698
F. F. Wooster 9 (61.33-ac)	7500	3799
Iotex Oil Corp., W. O. Alford 4 (20-ac)	8000	3812
Magnolia, W. B. Giles 7 (15.03-ac)	7200	3725
Normandie Oil Corp., Graham-Ohio 6-A (37.21-ac)	50	3676
Stanolind-Pure, W. H. Siler 67 (983.53-ac)	2400	3620
KILGORE AREA—		
Gulf Oil Corp., C. E. Christian 33-C (277.85-ac)	8200	3724
H. & F. Corp., P. Crews 9 (63.83-ac)	3200	3700
Jones-Shelburne, Inc., & Collander, Crim Mercantile 7 (67.4-ac)	600	3717
Crim Mercantile 10 (67.4-ac)	400	3724
Roger Lacy et al, J. F. Reynolds 8 (22.89-ac)	2500	3550
S. S. Laird et al, A. Muckelroy 2 (1½-ac)	2500	3585
R. C. Lipscomb, Thurmond & Southern, Martin 4 (32.02-ac)	3000	3646
W. E. McKinney-C. C. Curtis, Bradberry 3 (8-ac)	9500	3676
Magnolia, W. B. Kee 5 (56.41-ac)	200	3783
B. F. Phillips et al, Roy Walker 2	3000	3604
Selby O&G Co.-Lewis Prod. Co., M. T. Cole 15 (80-ac)	6500	3557
Shell, M. H. Bivins 18-A (113.4-ac)	8000	3583
Sinclair Prairie, J. E. Lawther 25 (317.68-ac)	120	3577
Stanolind, W. H. Smith 6 (111.4-ac)	1500	3736
Trentman Oil Corp., H. E. Thomas 3 (40-ac)	600	3732
H. E. Thomas 4 (40-ac)	480	3706
Fox Wood et al, L. Moore 4	5000	3650
LONGVIEW AREA—		
Arkansas F. O. Co., A. E. Lee 12 (67.19-ac)	8800	3621
Humble, G. W. Eillingham 12 (100.6-ac)	7000	3696
L. & G. Oil Co.-Jas. Papadakis, F. W. Knickerbocker 1 (50-ac)	*	3770
Magnolia, W. L. Fuller 4 (50-ac)	2500	3638
Selby O&G Co.-Lewis Prod. Co., Snavely 15 (118.3-ac)	7200	3588
Shell, T. B. Stinchcomb 16 (89.76-ac)	8500	3512
Sinclair Prairie, M. Moncrief 53 (307.7-ac)	9600	3590
Sun, E. F. Johnson 7 (81.26-ac)	500	3605
A. B. Mackey 4 (44.76-ac)	500	3659
Tide Water Associated, E. M. Nettleton 19 (148¾-ac)	5600	3532
Vera Oil Co., H. B. Owens 6 (50-ac)	600	3809
FRANKLIN COUNTY (Talco Field)—		
Humble, L. P. Stuart 1 (35.01-ac)	600	4321
Magnolia & Humble, O. S. Maxton 1 (160-ac)	405	4289
NAVARRO COUNTY Corsicana-Powell Field)—		
Girard Corp., Humphreys 36	5	1227
TITUS COUNTY (Talco Field)—		
Humble O&R Co., H. C. Fry 1 (87-ac)	750	4341
Humble, Adams-Lyles, Inc., J. R. Milligan 1 (80.81-ac)	255	4321
Magnolia, W. H. Crawford 8 (80-ac)	360	4315
WILDCATS		
CHEROKEE COUNTY—		
Gen'l. Crude Oil Co., S. L. Stockton 1 (103-ac)	*	4715
Dr. H. Hancock, J. G. Mayo et al, B. Pryor-Shell 1, (53-ac)	*	5203
HENDERSON COUNTY—		
Cosden Oil Corp., Mrs. E. P. Miller 1 (1550-ac)	*	5410

*Failures; †Junked; ¶Million cu. ft. gas.

Activity Assured

TOMOCONNOR ACREAGE DEALS INDICATE OUTPOST DRILLING

SOUTH TEXAS

WEEKLY STAFF REPORT

Corpus Christi.—Tomoconnor in Refugio County, most prolific field on the South Texas Gulf Coast, bids for an important share of this district's development in 1937, with deals being made for outpost leases, and new extensions being provided. One company paid $2550 per acre for 100 acres in the northwest edge of production and agreed to an immediate and complete development of the lease.

Josey and Bruton's 1-A Lambert, in the north central portion of Block 50 and more than one mile southwest of production in this field, flowed 588 barrels of oil in 24 hours through ¼-inch choke from 5881-5903 feet. One-fourth mile still farther south, these operators are making hole below 2500 feet in Lambert 2-A. These wells are located between the Tomoconnor and Fox fields and indicate that they ultimately will be merged into one large field.

On the northwest side of the field, Illinois Petroleum Corporation purchased a lease on the southeast 100 acres of the 215.9-acre Ira Heard tract in the M. J. Ximines Survey for $255,000, of which $70,000 was in cash and $185,000 in deferred oil payments. First of five wells in the contract has been commenced. This average of $2550 per acre is believed to be the highest paid in the field, but is indicative of the tremendous play the area is receiving.

Aransas Pass Trend "Hot"

Another hot leasing play is following the Aransas Pass trend through the Flour Bluff field. Much leasing has been done in this area for small tracts as well as in assembling blocks for drilling of wells. Atlantic Refining Company scored the best completion in four on its McCampbell field properties in Aransas County with McCampbell Ranch 1-B, which gauged 13 barrels per hour through 3/16-inch choke after perforating in the 6500-foot sand. The well is bottomed at 6544 feet in sandy shale, where casing was set. Oil sand was cored at 6531-38½ feet. Several miles northeast of this well in San Patricio County, one deep test has been abandoned and another likely will be within the next several days. Eleanor Oil Company's William Kline 1, Lot 5, Block C, Coleman-Fulton subdivision, was abandoned at 6851 feet, while Hooper & Rutherford Inc.'s Willis 1, an east offset, is shut down for orders at 7213 feet.

Magnolia Petroleum Company's Willie Beck 1, T. & N. O. Railway Survey No. 1, 4½ miles northwest of Telferner in Victoria County, drilled to 4812 feet and has set casing to make a series of tests in upper sands which showed both oil and gas. It is favorably considered as a probable discovery well of a new Victoria County field.

Another Distillate Sand at Edna

Steinberger Petroleum Corporation has opened another distillate sand in the Edna field of Jackson County. The old Drushell 10, drilled in 1932 by the Chicago Gulf Corporation, has been plugged back and perforated at 4800-20 feet, where it is making about 3,000,000 cubic feet of gas with some distillate through ¼-inch choke. It showed pressures of 1825 and 1975 pounds on tubing and casing, respectively. Drushell 1, recently drilled, and located about ½ mile to the northeast, was completed in a 4600-foot sand as a wet gasser a few weeks ago.

Three deep wells are being started in the general vicinity of Tivoli. Mills Bennett's J. W. Williams 1, M. Lopez Survey, 2 miles east of Green Lake, Calhoun County, is rigging up. Paul Meaders' Temple Lumber Company 1, about 5 miles south of Tivoli, is rigging up, and Windsor Oil Company's Bissett 1, 1 mile from Tivoli, has been spudded. The latter wells are in Refugio County.

La Jita Corporation found saturation at 5577-88 feet in Frame & Bowers 2, in the Bentonville field of Jim Wells County, but a drill stem test failed and the well is drilling ahead. Another saturated core was taken from 5605-10 feet, and a drill stem test is to be made. The sand is in the Frio and 300 feet deeper than present pay.

Nueces County's main interest at this time is centered around the deep horizons at Saxet field. Several more producers have been finished in the 6300-foot horizon, gauging around 150 barrels of oil per day through ⅛-inch chokes and showing a fair gas/oil ratio. It now appears as though this high gravity sand will yield excellent production. More tests in the field are going below this level in an effort to establish oil production in several Vicksburg sands known to exist in the general area.

Clara Driscoll Area Busy

Clara Driscoll area is a hot spot with outpost wells at critical levels. Al Buchanan and Blanco Oil Company failed to pick up the 3800-foot sand lense in F. Gandy 1, 1¼ miles north of production. It is drilling ahead at 3910 feet for the deeper horizons. W.

PETROLEUM ELECTRIC POWER CLUB

L. Hinds and Phillips Petroleum Company's Sevier 1-A, 1 mile west of the above well, is still testing. It showed a large volume of gas and sprayed distillate after perforating in a sand somewhere between 5650 and 5850 feet. The well is closed from an information standpoint, hence all data is from rumors. On the east flank of the present Clara Driscoll field, Pan-American Production Corporation and Wellington Oil Company are preparing to gun perforate and test a series of sands above 6075 feet, after setting a string of 4¾-inch O.D. casing. Seven sands were encountered between 3800 feet and the total depth, all showing oil and gas. Conroe Drilling Company and H. M. Reed's J. L. Meyers 1, about ½ mile south of the field, is coring for the 3900-foot sand. Several miles east of the field, Renwar Oil Corporation's Willoughby is making hole below 5750 feet.

OAKVILLE BLOWOUT

Pettus sand oil well brought under control

Beeville.—A new Pettus sand oil producing area was proved in the Oakville field of Live Oak County through completion of Ohio Fuel Supply Company's H. J. Rosebrock 1. The well is in the Louis Romero Survey and is in the extreme northeastern portion of the shallow area. Production from the new well is from 2800-08 feet, the top of the Pettus sand being 2797 feet.

The well went out of control late December 16 when fittings were blown loose from the Christmas tree during completion attempt. The well ran wild several hours, but finally was controlled by pumping in water. A new Christmas tree was to be reset after tubing had been pulled. It was expected to recomplete over the week end. The well showed several barrels of Caesar type oil with considerable gas while out of control, but no salt water.

This is the second Pettus sand producer in Oakville field, the first being a gasser completed several months ago.

The new discovery is loked upon as rather important as it opens the way to a new play southwest along strike from the present Pettus oil producing district of Bee County.

Sun Oil Company has abandoned Lena Fromme 1, wildcat 10 miles north of Goliad in Goliad County. It drilled to 5551 feet in the Yegua after finding a gas show in the Lower Jackson formation at 4690 feet and oil and salt water in the Yegua at 5131-47 feet.

Felmont Corporation's W. Hoff 1, 3000 feet southeast of the discovery well of the Maetze field, Goliad County, is coring below 3550 feet. It showed 13 stands of salt water with 450 pounds gas pressure in sand at 3438-46 feet, the test being from 3419 feet to the bottom of the sand.

Edwin M. Jones Ezzell 1, wildcat south of Calliham in McMullen County, was still running wild December 18 after blowing out late December 17 from 1280 feet. It had cored the Government Wells sand at 1181-1203 feet, the horizon in which the blowout occurred. Estimates on the flow range up to 30,000,000 cubic feet of dry gas. The well was showing no signs of cratering and was expected to be ultimately controlled. Jones has about 15,000 acres in the vicinity.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Lee F. Ross et al J. O. Caldwell 1 3700 ft sw/1, 1400 ft sel of 1500-ac tr, J. A. Navarro sur 10 mi w Bastrop	*	2583
BEE COUNTY—		
J. A. West George A. Ray 1-B, W. B. Blanchard sur, (Ray)	275	3957
CALHOUN COUNTY—		
Portilla Drlg. Co.'s P. H. Welder 3, Agaton Sisneros sur, (Heyser)	*	5509
DUVAL COUNTY—		
W. W. Blocker's Coopwood-State 1, sur 382, (Seven Sisters)	1000	2462
Bridwell Oil Co.'s M. C. Hubberd 15-A, sur 71, (Loma Novia)		
J. D. Sutherland 4-B, sec 122 (Hoffman)	122	2817
Cox & Hamon's W. R. Peters 17, sur 322, (Lopez)	480	2100
W. R. Peters 18, sur 322, (Lopez)	360	2112
W. R. Peters 40, sur 322, (Lopez)	360	2182
W. R. Peters 41, sur 322, (Lopez)	360	2162
Humble O&R Co.'s M. C. Hubberd 17-B, sur 83 (Loma Novia)	1500	2759
J. F. Welder 17-C, sur 554, (Loma Novia)	*	2849
Magnolia Pet. Co.'s DCRC 3, sur 97, (Piedre Lumbre)	¶15	3250
M. G. Peal 28, sur 383, (Lopez)	*	2204
Ralph Ogden's D. Ruiz Est. 1-A, sur 41, (Loma Novia)	2505	2595
Pan American Prod. Corp.'s J. F. Welder heirs 3-B, sec 102, (Seven Sisters)	500	2497
Rogers & Rogers' W. K. (Sophie) Hoffman 4-A, sur 118, (Hoffman)	150	2773
Shell Pet. Co.'s V. Mendoza 19, sur 68, (Loma Novia)	195	2736
Wellington Oil Co.'s J. F. Welder heirs 18, sec 383, (Seven Sisters)	750	2468
GOLIAD COUNTY—		
Sun Oil Co.'s Lena Fromme 1, 330 ft nl of farm & 330 ft wl of L.A. Maetze sur, 10 mi n of Goliad	*	5551
CALDWELL COUNTY—		
John Storey's W. P. Smith 1, Pablo Martinez sur, (Lytton Springs)	*	1625
GUADALUPE COUNTY—		
W. J. Walton et al's Mrs. Emma Hoffman 3, Sowell sur, (Zoboroski)	200	2330
KLEBERG COUNTY—		
Clark et al's A. V. Kivlin 3, sec 39, (Kingsville)	*	lcn
HIDALGO COUNTY—		
Harrison-Danvers' F. B. Guerra 3-A, sec 251, (Samfordyce) perf 3945-52 ft	350	3004
Phillips Pet. Corp.'s Seabury et al 2-C, Juris of Reynosa (Samfordyce)	350	2951
McMULLEN COUNTY—		
Conservative Oil Co., J. Stitz 13, J. Garner sur, (Calliham)	12	711
MILAM COUNTY—		
J. C. Kolgore, S. W. Law et al 1, 150 ft sl, 250 ft el of 606-ac tr, S. Wilhelm sur	*	420
NUECES COUNTY—		
C. Andrade, Rand Morgan 1, sec 592, (Saxet)	500	4607
Bentex Oil Co., (was Paul Benedum) Frank Harman 1, sur 416 (Saxet) owdd former td 5838 ft	600	6318
R. B. Bryant, Martha Scoggins 9 sur 315, (Saxet)	700	4473
Antone Kocurek 1, 330 ft n & el of n/58-acres of s/113 acres of 172.5 ac tr. J. H. Smith sur 25, 1 mi s Clarkwood	crater	3125
Conservative Oil Co., Morgan-Clark 2, sec 405 (Saxet) pb 4094 ft	¶25	4104
J. K. Culton, H. B. Baldwin 11, blk 19, (Saxet Heights)	365	4083
D & S Drl. Co., Meany 1, Villareal gr, (Saxet Heights)	*	4129
Lonnie Glasscock, J. B. Hunter 2, sur 591, (Saxet) perf 4411-19 ft.	625	6767
Tom Graham, O. B. Carver 2, lot 4, blk 2, (Saxet Heights)	300	4110
W. L. Hinds, Clara Driscoll Sevier 1-A, 283 ft sl & el of w/2 fractional sec 60, Paul subd of Driscoll Ranch, 2 mi nw field	¶20&50	6608
Pan American Prod. Corp., Rand Morgan 4-C, sec 405, (Saxet)	400	6285
Republic Natural Gas, J. Dunn 15, blk 38, (Saxet)	650	6326
Richardson Pet. Co., Cain & Sechrist 5, blk 23, (Saxet)	525	4446
Cain & Sechrist 11, blk 23, (Saxet)	500	4437
W. A. R. Oil Co., Mrs. Bertha Buckholt 4, sec 316, (Saxet)	450	4450
I. Dunn 1, Villareal Gr (Saxet Heights)	*	4483
W. S. Hutchins 1, Frank subd, (Saxet)	*	6454
Wellington Oil Co., Clara Driscoll Sevier 7, Wm. Gamble sur, (C Driscoll)	1250	3817
REFUGIO COUNTY—		
Hewitt & Dougherty, M. F. Lambert 35, sur 6, (Tomoconnor) perf 5891-5903 ft.	1250	5905
Josey & Bruton, M. F. Lambert 1-A, 466 ft nl, center e & w lines, blk 50, Swisher sur, 1 mi w Tomoconnor field	1000	5903
Quintana Pet. Corp., A. Reilly 2, M. J. Ximinez sur (Tomoconnor	2750	5929
Tide Water Oil Co., E. G. Landgrof 1, 466 ft n & el of 220-ac tr in J. Collyer sur. N Haynes Bay	*	8506
United Prod. Co., M. F. Lambert 32, sur 5, (Tomoconnor)	500	5912
SAN PATRICIO COUNTY—		
Eleanor Oil Co., Wm. Kline 1, 451 ft el, 547 ft nl of lot 5, blk "C", Coleman-Fulton Pasture Co. subd.	*	6851
Heep Oil Corp., E. H. Welder 6-F, Montgomery sur, (Plymouth)	450	5610
Plymouth Oil Co., E. H. Welder 64-C, sec 71 (Plymouth)	425	5646
VICTORIA COUNTY—		
Barnsdall & American Liberty, Pickering & Buehler 5, A. Murray sur (Placedo)	750	4776
Pickering & Roos 10, S.A.&M.G. sur (Placedo)	900	4768
WEBB COUNTY—		
Smith & Hamill, S. Benavides 38, M. Arispe Gr. (Cole)	650	2936
ZAPATA COUNTY—		
Gilcrease Oil Co., Antonio Trevino et al 1, 330 ft nwl, & nel blk 5, sec 3, Bode subd, porc 2 & 3, 7 mi se San Ygnacio	*	3751
Nordan & Morris, Cuellar Bros 2, Cerrito Blanco gr (Cuellar)	*	1616
The Texas Co., Whitehead 94, Cerrito Blanco Gr. (Escobas)	*	2535
United Prod. Corp., A. D. Haynes 10, blk 13, (Comitas)	65	1027
A. D. Haynes 11, blk 13, (Comitas)	65	981
A. D. Haynes 12, blk 13, (Comitas)	65	1011
Valley Osage Co., A. D. Haynes 1, blk 14, (Comitas)	50	1044
The Zapata Co., M. Garza, Est 5, blk 20, (Escobas)	160	1153

*Failures; †Junked; ¶Million cu. ft. gas.

NEW FAULT FIELDS

Discoveries in Balcones indicate possible reserve

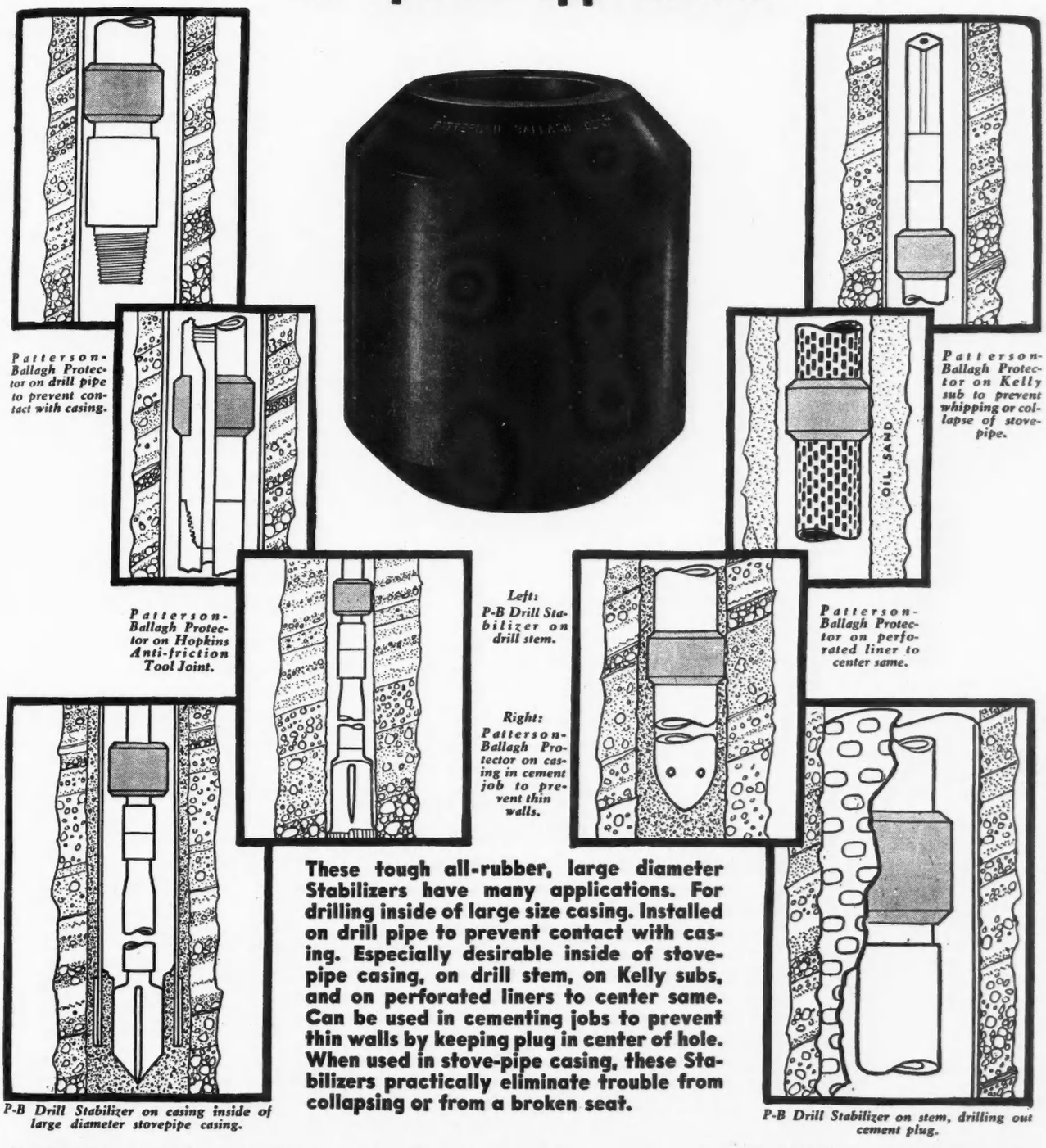
San Antonio.—The Balcones fault zone, which has been making a most outstanding comeback during the past several months, attained the highest point of interest during the past week, with several new pools assured and a possible major field anticipated with testing of wildcats.

Red Bank Oil Company's Nellie Gramm 1, wildcat on the Chreisman prospect of western Burleson County, was making preparations to drill plugs to make a production test in Edwards limestone at 6226-41 feet. A string of 5-inch casing was landed at 6223 feet. This well is the second on this prospect, the first drilled by this concern, and located about ½ mile to the east, showing both oil and sulphur water.

Austin Chalk Discovery

Guadalupe County's second Austin chalk field of the month was in the making, with Riddle Oil Company's E. Nolte et al 1, J. Sowell Survey, 5½ miles southeast of Seguin, being placed on pump. The well drilled to 1880 feet, and plugged back 1850 feet, where it was treated with 4000 gallons of acid. After treating, the well made one flow

PATTERSON-BALLAGH HEAVY-DUTY DRILL PIPE STABILIZERS for special applications



Patterson-Ballagh Protector on drill pipe to prevent contact with casing.

Patterson-Ballagh Protector on Hopkins Anti-friction Tool Joint.

Left: P-B Drill Stabilizer on drill stem.

Right: Patterson-Ballagh Protector on casing in cement job to prevent thin walls.

Patterson-Ballagh Protector on Kelly sub to prevent whipping or collapse of stovepipe.

Patterson-Ballagh Protector on perforated liner to center same.

P-B Drill Stabilizer on casing inside of large diameter stovepipe casing.

These tough all-rubber, large diameter Stabilizers have many applications. For drilling inside of large size casing. Installed on drill pipe to prevent contact with casing. Especially desirable inside of stovepipe casing, on drill stem, on Kelly subs, and on perforated liners to center same. Can be used in cementing jobs to prevent thin walls by keeping plug in center of hole. When used in stove-pipe casing, these Stabilizers practically eliminate trouble from collapsing or from a broken seat.

P-B Drill Stabilizer on stem, drilling out cement plug.

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***Plant and General Offices:* 1900 East 65th Street, Los Angeles, Calif., U.S.A. *New York Office:* 39 Cortlandt St.; *Oklahoma Office:* Oklahoma City, 1704 N.W. 17th St.; *Texas Office:* Houston, 515 M & M Building; *Louisiana Office:* Box 23, Oil City, La.**

to the crown block, then settled down, slopping some oil over the top of the casing. It topped the chalk at 1790 feet and is saturated from the top of the formation to the bottom of the plugged-back hole.

Detroit Texas Development Company's N. J. Carter 1, S. Highsmith Survey, 2 miles northeast of Luling, the other field opener for Guadalupe County in December, made a pumping test, showing 235 barrels of oil in 42 hours. It is bottomed at 2356 feet, having topped the Austin chalk at 3065 feet.

W. D. Bacon had not yet set casing in O. D. Halm 1, J. Kent Survey, 2 miles south of Kingsbury in Guadalupe County, but the test is showing for a possible producer in the Austin chalk at 1652-1714 feet. It also may open a new field.

Of particular interest is the redrilling of already tested areas in this portion of the Balcones fault zone. Prior wells had shown a little oil in the Austin chalk, but were abandoned. The development of acid, however, has brought these old prospects to the fore, and considerable success has been obtained. The above discoveries are on formerly drilled prospects.

Amerada Petroleum Corporation definitely has decided to carry Halff & Oppenheimer 8, in the Pearsall field, Frio County, to 10,000 feet if production is not found in formations below the Austin chalk. It showed oil in the Austin chalk, regular producing horizon of the field. Late in the week, the well had progressed to below 5700 feet and was expected to pick up Buda lime over the week-end. This is a possible producing horizon, one well in the field making considerable oil from that level.

TEXAS GULF COAST Completions

Company, Well and Location	Iint. Prod. Bbls.	Depth
AMELIA—		
Humble, Tyrrell Combest 2	360	6781
ANAHUAC—		
Humble, Boyt 3	360	7125
White B-4	288	7129
BIG CREEK—		
Jeanal Oil Co., Bryan 3	*	3736
CLAY CREEK—		
Sun, Janner 18	125	1625
CONROE—		
Strake, Dean 7	551	5046
COTTON LAKE—		
Glenn H. McCarthy, Kilgore 6	375	6291
DICKINSON—		
Humble, Townes 5	*	lcn.
Maco Stewart A-12	720	8602
Kenco Corp., Strom 1	115	8100
ESPERSON—		
General Crude, Moores Bluff 25	73	3255
HASTINGS—		
Walter Gholdston, Fee 2	672	6088
Humble, Brown B-7	672	6090
Showers & Moncrief, Hughey 1	740	6080
MANVEL—		
Harrison & Abercrombie, Lewellyn 3	554	5677
Phil Top Oil Co., Frost 1	*	4129
MARKHAM—		
Hamil & Hamil, Hudson 6	*	4486
SPINDLE TOP—		
Kinner Oil Co., Hebert 1	*	2726
TOMBALL—		
Humble, Theis 5	600	5586
HARDIN COUNTY—		
Republic-Houston Oil Co., Brooks 3, Silsbee, J. W. Brooks sur	207	6970
HARRIS COUNTY—		
D. B. Cherry et al, Dodger 1, Epsom Downs area, J. T. Harrel sur	*	1646
LIBERTY COUNTY—		
J. G. Mayo, Dunnam 1, Rumayor prospect, J. Cherry sur	*	6191
WHARTON COUNTY—		
Felmont, General Mitchell 1, Spanish Camp prospect, D. Wade sur.	¶4	3015

*Failures; †Junked; ¶Million cu. ft. gas.

Silsbee Produces

SHOWINGS IN POLK COUNTY WILDCAT INDICATE FIELD

WEEKLY STAFF REPORT

SILSBEE HAS TWO SANDS

Houston.—Late Friday the Republic Production Company and Houston Oil Company's Brooks 2, Silsbee prospect, Hardin County, found a new sand at 6910 feet and showed 20 fourbles of 38 gravity pipe line oil with no water on an eight-minute drill stem test. Pressure was 100 pounds.

Brooks 2 was originally drilled as a directional well and was successful in killing Brooks 1, discovery well of the area, which blew in wild and cratered. After plugging back and straightening Brooks 2 was being drilled to the regular horizon when encountering the new sand.

The same interest's Brooks 3, earlier, established the first commercial production for the area from 6979 feet. (See details below.)

Houston. — Evidence of a new oil field in Polk County, first commercial production at Silsbee in Hardin County, the discovery of a new gas reserve with possibilities of future oil production in Wharton County, extensions to proven areas and important wildcat locations held the interest of operators in the Texas sector of the Gulf Coast during the past week.

A production test will be made on J. K. Dorrance's S. Wings 1, Polk County, next week. Last week the operators ran casing to 5194 feet after making a drill stem test at 5150-94 feet which showed 10 stands of 40 gravity pipe line oil in 10 minutes. When the crew started breaking down the stands the well commenced flowing. It showed a pressure of 75 pounds through ⅜-inch choke on top and bottom of the testing tool. The oil was tested at 54 degrees F. Bottom of the hole is 78 feet in the Cockfield.

Prior to the above test a test made from 5111 to 5170 feet showed one single and a double of gas cut mud with no oil or pressure. Wings 1 was drilled on the Segno prospect, where Kirby Petroleum Company has drilled a number of tests. Humble Oil Refining Company and Gulf Oil Corporation have acreage in this area. J. K. Dorrance's S. Wings 1, is in the I. & G. N. Survey, Abstract 713.

First Commercial Production at Silsbee

The first commercial production for the Silsbee area, Hardin County, was established last week when Republic Production and Houston Oil Company's Brooks 3, J. W. Brooks Survey, came in flowing pipe line oil at the rate of 140 barrels in 22½ hours from the Cockfield formation at 6979 feet. The 43.2 gravity oil was flowing through a quarter-inch choke with a tubing pressure of 1290 pounds and a casing pressure of 1500 pounds. The operators have made location for Brooks 4.

Approximately 1½ miles north of production at Silsbee, T. J. Deskins made location for N. B. Collier 1 in the O. C. Nelson Survey, Abstract 40.

A new gas reserve was opened in Wharton County last week by Felmont Oil Corporation on the Spanish Camp prospect, which also stands a good chance of producing commercial oil. Felmont Oil Corporation's General Mitchell 1, D. Wade Survey, was completed at 3015 feet, making an estimated 4,000,000 cubic feet of gas daily with a small amount of distillate through a quarter-inch choke. Tubing pressure was 1275 pounds and casing pressure was 450 pounds. Eighteen feet of screen was attached to the seven-inch casing and run to 3015 feet.

In an effort to substantiate the theory that oil is under the Spanish Camp prospect, A. Plummer and Felmont Oil Corporation are now moving the rig from General Mitchell 1 to a location for Lyle & Logue 1. The new test will be approximately 2075 feet south of the discovery well and 4680 feet south, 20 degrees west, from the northwest corner of the S. F. Austin Survey, No. 3, thence south 70 degrees east 1413 feet. Gas from the discovery well will be used as fuel for Lyle & Logue 1.

Salt Dome Oil Corporation's Lawrence 1, Cotton Lake area, Chambers County, may open a new oil field next week. The crew has set seven-inch casing at 6645 feet and will probably drill cement plugs and start washing December 21. No drill stem tests were made on Lawrence 1 before setting the seven-inch casing. The operators will probably perforate casing and test sands at 6481 to 6492 feet, at 6505 to 6549 feet, and at 6555 to 6564 feet. The first sand mentioned was found by an electrical logging device and the other two were cored. The hole is bottomed at 7015 feet by the drillers log and at 7005 feet by an electrical logging device. Top of the salt water sand was found at 6578 feet. If the well produces commercial oil it will be from Frio formation.

Anahuac field, Chambers County, was extended northwest when Humble Oil & Refining Company completed

White B-4, J. McGahey Survey, flowing 12 barrels of pipe line oil per hour through a quarter-inch choke from 7129 feet. On the northeast side of the field the same company's Boyt 3, H. & T. C. Survey, Section 44, was completed at 7126 feet flowing 15 barrels per hour through a quarter-inch choke.

Amelia field, Jefferson County, was extended southwest when Humble Oil & Refining Company made a nice producer out of Tyrrell Combest 2, A. Savary Survey, at 6781 feet. The well came in making 15 barrels of 29.3 gravity oil per hour through a quarter-inch choke with a tubing pressure of 375 pounds and a casing pressure of 700 pounds..

Wildcat Location at Devers

A new and interesting wildcat location was made at Devers, Liberty County, last week by Kenco Oil Corporation. I. N. Bell 1 is 300 feet from the south line and 400 feet from the west line of a 150-acre tract in the H. & T. B. Survey No. 4, Abstract 275. The operators may not drill the test for some time, but it is in the area where there has been an extensive leasing campaign. Several tracts in the area brought as much as $100 per acre.

On the Rumayor prospect in Liberty County, J. G. Mayo et al's Dunnam 1, J. Cherry Survey, was abandoned at 6191 feet in the Cockfield formation after coring salt water sands from 5960 to 5980 feet.

At Ace in Polk County Peyton Brothers made a drill stem test on Kirby & West B-1, J. S. Thomas Survey, which showed a gas pressure of 375 pounds. The test was made of formation at 4800 to 4825 feet in six minutes through two quarter-inch chokes. The crew was testing a gas sand which was found from 4805 to 4825 feet.

Dickinson Extended

Dickinson field, Galveston County, was extended in northwest last week when Kenco Corporation completed Strom 1, J. S. Sherman Survey for 115 barrels daily through a 11/64-inch choke, with a tubing pressure of 350 pounds and a casing pressure of 1400 pounds from 8071 feet. Casing was perforated with 24 holes from 8061 to 8071 feet.

Humble Oil & Refining Company's Boone 1, northeast flank of Dickinson, W. K. Wilson Survey, was again plugged back to 8065 feet and was waiting on cement to set at the close of the week. Casing was perforated with 12 shots from 8106 to 8116 feet and failed to show anything commercial.

Shell Petroleum Corporation's Maco Stewart B, Hitchcock prospect, J. Spillman Survey, Galveston County, was worked over last week and failed to show performance as good as the initial production test. The crew perforated casing from 5125 to 5135 feet with nine shots and the well made an estimated 2,400,000 cubic feet of gas through a 5/16-inch positive choke on the tubing. The well also was making five barrels of fluid, 70 percent water, from the new perforated depth. The 43 gravity oil should increase as soon as the test is cleaned. It originally came in for 24 barrels of 33 gravity oil per day and 3,500,000 cubic feet of gas from perforated casing at 5120 to 5130 feet.

Below 12,214 Feet

ABBEVILLE TEST IS WITHIN 572 FEET OF DEPTH RECORD

Lake Charles.—Only 573 feet remain to be drilled in Continental Oil Company's Hebert 1, Abbeville prospect, Vermilion Parish, to establish a new world record for deep drilling. At the end of the week the test was drilling shale in a sidetracked hole at 12,214 feet. Barring accidents, the coming week, the wildcat should be below 12,786 feet, which is Gulf Production Company's record in a West Texas well. Little doubt is in the minds of those interested in the wildcat that it will reach a new record, as the bit has passed through a hard shale formation and is in a soft sandy shale section which makes easier drilling.

South of Abbeville, Stanolind Oil & Gas Company's Fred Stovall 1, Section 89-14s-3e, has passed the 10,000-foot mark, thereby becoming the ninth well in the Louisiana Gulf Coast to accomplish this feat. The test, drilling in sandy shale at 10,029 feet at the end of the week, will be drilled to an undetermined depth.

Two Wildcat Locations

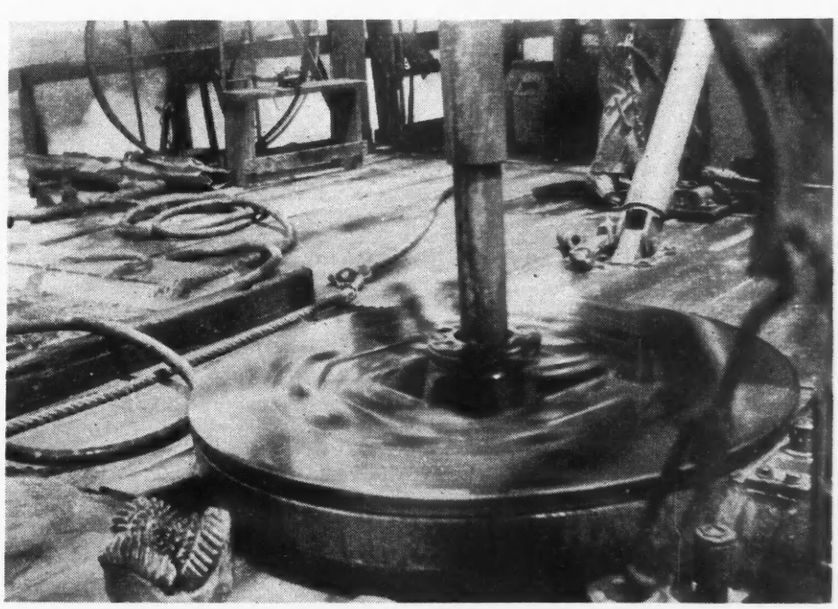
Stanolind Oil & Gas Company has made two wildcat locations, one to be drilled with the help of Amerada Petroleum Corporation. The two companies' Calcasieu National Bank 1, 990 feet north and 660 feet west of the southeast corner of the NE¼ of Section 28-7s-3w, Jefferson Davis Parish (China prospect), is being rigged. This is the second well for Stanolind Oil & Gas Company to participate in in Jefferson Davis Parish. The first, Calcasieu National Bank 1, discovered a new gas and distillate field at South Jennings, several weeks ago.

China prospect, west of Tepetate field, Acadia Parish, was worked with reflection seismograph and torsion balance by Stanolind Oil & Gas Company. The two companies have a block of 8500 acres in the area. Sun Oil Company, Gulf Oil Corporation, Magnolia Petroleum Company, Skelly Oil Company, Tide Water Oil Company and Barnsdall Oil Company have some acreage in the area. This prospect was taken after Tepetate came in.

Anse La Butte field, St. Martin Parish, which was acquired by Stanolind Oil & Gas Company from Yount-Lee Oil Company, is the scene of the second wildcat. This company plans a deep test at Numa Patin 1, 330 feet from the northeast line and 300 feet from the northwest line of the N. Tatin tract in Section 46-9s-5e.

Another Well in New Sand

Superior Oil Producing Company completed its second well on the southwest side of Jennings field in a new producing horizon. Eunice Crowley 1, Section 42-9s-2w, Acadia Parish, came in making 19 barrels per hour through 12/64-inch choke with tubing pressure of 1050 pounds and casing pressure of 850 pounds, from sands found at 5480 to 5490 feet and 5510 to 5530 feet. Seven-inch casing was set at 5614 feet and was perforated. The same company's Jennings Heywod 1, Section 41-9s-2w, is drilling below 6607 feet in shale. The latter cored broken sand and shale showing oil from 6460 to



This rotary table will have to carry only 573 more feet of drill stem to allow Continental Oil Company's Hebert 1, Abbeville prospect, Vermilion Parish, to establish a new world record for deep drilling. This picture shows the table spinning as the bit rotates below 12,214 feet.

6535 feet, and had a good sand showing oil from 6507 to 6525 feet. The crew will explore below the regular producing horizon, and, if no new sands are found, will probably set casing and perforate the sand showing oil. Superior Oil Producing Company made location for Wm. Leckelt 2, 930 feet south and 810 feet west of the northeast corner of Section 42-9s-2w, Acadia Parish. It is approximately 300 feet west and 50 feet north of the company's Leckelt 1, which discovered a new sand some time ago and extended the field.

Shell Petroleum Corporation's Heyd 21, Section 13-9s-8w, Iowa field, Jefferson Davis Parish, was completed at 6573 feet last week, making 570 barrels daily through ¼-inch choke with tubing pressure of 1000 pounds and casing pressure of 1325 pounds. The 42.2 corrected gravity pipe line oil was coming from sands at 6538 to 6573 feet.

After extending English Bayou field west, Fohs Oil Company made location for A. D. Daharsh 1, 300 feet south and 200 feet west NEc NW SW Section 14-9s-8w, Calcasieu Parish. The operator's A. Powers 3, Section 14-9s-8w, was completed at 7062 feet after perforating 7-inch casing from 7055 to 7059 feet. It made 530 barrels of 42.5 corrected gravity oil daily through 14/64-inch choke with tubing pressure of 1000 pounds and casing pressure of 525 pounds.

Four Wildcats Abandoned

Four interesting wildcats were abandoned in the Louisiana Gulf Coast the past week. Gulf Oil Corporation completed State Bay Adams 2, in Bay Adams, Section 32-19s128e, Plaquemines Parish, at 2700 feet, after encountering a slight show of oil from 1350 to 1359 feet. In St. Landry Parish, Stanley Thompson's Lewis test, northeast of Port Barre, Section 29-5s-6e, was abandoned at 6000 feet. It had a show of gas at 4226 feet. Northeast of Bosco in St. Landry Parish, Superior Oil Producing Company's A. Savoie 1, Section 26-8s-3e, was shut down and will probably be abandoned at 9428 feet. An electrical logging device was run to the bottom, and side wall samples were taken. Most of the sands cored contained salt water. Humble Oil & Refining Company, after abandoning Wilbert 1, Section 67-9s-11e, Iberville Parish, at 4291 feet, made location for Wilbert 2, 2500 feet west of Wilbert 1.

On the flank of the Starks field, Cameron Parish, J. R. Turnbull is preparing to make a drill-stem test on Industrial Lumber Company 1, Section 20-9s-12w. The hole is bottomed at 5570 feet, and sand showing oil was cored from 5554 to 5558 feet and from 5558 to 5570 feet. The first 7 feet of the last core was oil sand and the balance shale.

Lafitte to Be Extended

Evidence that Lafitte, the deepest producing field in the Louisiana Gulf Coast, would be extended northeast was shown by The Texas Company's R. C. Milling Company 1, Section 20-17s-24e, Jefferson Parish. It is coring below 9626 feet in shale and lime after encountering a sand showing oil from 9416 to 9421 feet. It probably will be carried below 10,000 feet.

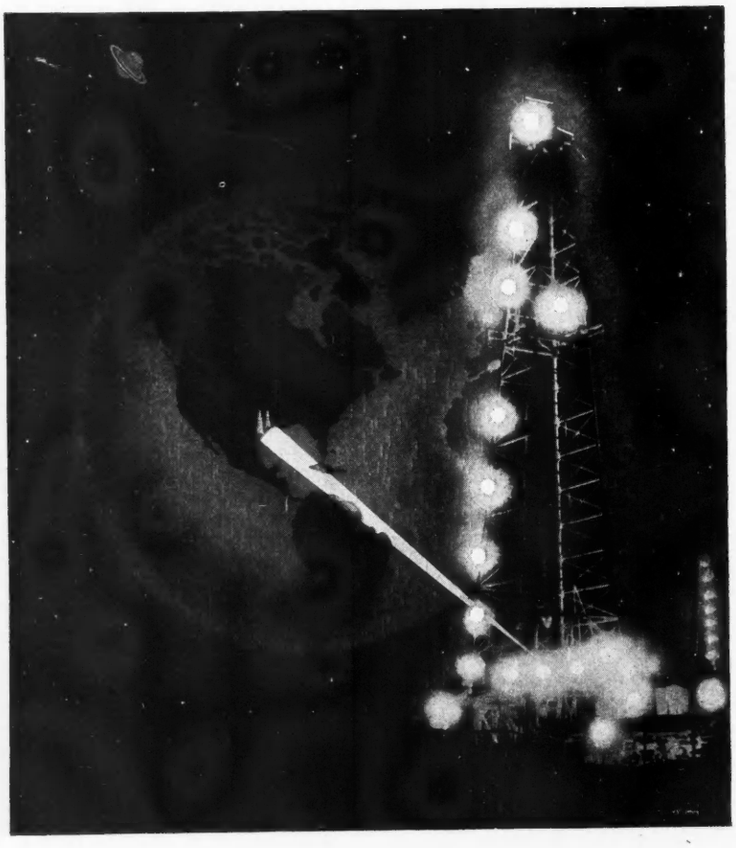
At Jeanerette field, St. Mary Parish, Herton Oil Company was completing two wells last week. Carter 3, Section 38-13s-9e, was being washed at 6737 feet. Oil sand was logged at 6723 feet and 7-inch casing was cemented at 6722 feet. Roane 4, Section 40-13s-9e, was also being washed in. Oil sand was logged from 6640 to 6650 feet. Gas sand was topped at 6628 feet. Seven-inch casing was cemented at 6642 feet.

East of Jeanerette, at Charenton field, St. Mary Parish, Pan-American Production Company reworked Mike Hogg's Lawes 1, the discovery well. It made an estimated 400 barrels daily through ¼-inch choke. There has been no official gauge on the well yet. The hole was corrected to 7215½ feet and was plugged back to 7186 feet. Cement plugs were drilled to 7203 feet and casing was perforated with 12 holes from 7198 to 7203 feet.

The Texas Company is setting 9⅝-inch casing at 8063 feet in State Lake Barre 37 at Lake Barre field, Terrebonne Parish. This well established a new depth record for the field.

Mt. Pleasant, Mich.—West Michigan Consumers Company, who controls the bulk of the potential gas acreage in the new Ravena township (9n-14w), Muskegon County, Berea sand shallow gas field, has filed a permit with the utilities commission for permission to develop the area on the basis of one well to 160 acres.

Up to the present time a 1-to-40-acre spacing plan has been used in gas field development. Present withdrawl regulations are based on the 1 to 40 program.



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BRIGHT WITH HAPPINESS

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RODESSA QUIET; DISTILLATE PRODUCER AT COTTON VALLEY

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport. — Rodessa had another quiet seven-day period last week, accounting for 9 new wells, 8 on the Texas side of the field. There were 9 locations announced for Cass County and three for the Caddo Parish.

Chief operating interest centered in Holcomb, Thomasson and associates (M. H. Overlees), Lizzie Henderson 1, R. Bennington Survey, Marion County, Texas, 13 miles southwest of production which was drilling below 5410 feet. A stringer of anhydrite was reported logged in this test from 4870 to 4880 feet, and another anhydrite stringer was reported logged between 5242 to 5296 feet; elevation is 221 feet. Six miles northeast of this test Arkansas-Louisiana Gas Company is ready to spud W. S. Ford 1, C. O. Grayson Survey.

R. W. Norton has cemented a string of 9⅝ inch casing around 6200 feet, in Payne 1, SE SE 27-23n-16w, a proposed 10,000-foot test being drilled south of the Rodessa fault.

Apparently an edge well to the north in the northeast part of the field, J. G. Collins' School Board 2, Section 8-23n-15w, on a 2-acre tract, made only 36 barrels of distillate in 24 hours through ½-inch tubing choke at 6071 feet.

In the northwest part of the Louisiana side of the field United Gas Public Service Company's Harris 4, Section 15-23n-16w, after being acidized, flowed for a short time and then had to be swabbed. The same company is acidizing Tyson A-3, J. H. Rives Survey, Cass County.

J. Edward Jones' Maidie Sharp 1, SW NE SW 4-23n-16w, 1½ miles north of production, continues to flow at the rate of 194 barrels of oil in 24 hours from 6035 feet in Gloyd sand.

H. L. Hunt, Incorporated, was running tubing last week in I. N. Shelton 1, James Davenport Survey, southwest outpost test, after drilling out re-cemented plug to 6058 feet. East Texas Petroleum Company's Belote 1, Chales Ames Survey continued fishing at 5876 feet.

Cotton Valley

The upper part of the Travis Peak formation recently found productive of oil at Cotton Valley yielded a gas-distillate well in Woodley Petroleum Company's L. C. Cox B-2 (formerly carried L. C. Cox 1) SW NE 22-21n-10w, which was completed last week at 5553 feet, gauging 9 barrels of distillate per hour through ¾ inch tubing choke, and making an estimated 20 to 30 million cubic feet of gas. Casing pressure was 700 pounds and tubing pressure 500 pounds. The distillate was reported in a preliminary test to be about 65 gravity with 75 percent gasoline content.

This well is ¾-mile west of Ohio Oil Company's Holloway 6, which is producing over 500 barrels daily from top of the Travis Peak. Five other tests drilled since the first oil well missed production at top of the Travis Peak and all are drilling below 7100 feet, apparently trying for a horizon that showed for possible production at 8300 feet.

Six miles north of the Cotton Valley, Seaboard Oil Corporation abandoned Cotton Valley Land & Timber Company 1, NW SW 35-22n-10w, at 6084 feet, 123 feet into the Travis Peak. It checked low throughout.

United Gas Public Service Company's Skannal G-1, C SE NE 22-17n-12w, second oil producer in the Petitt horizon (basal Glen Rose) in the Sligo field, Bossier Parish, flowed 1193 barrels of 44 gravity oil in a 24-hour gauge last week, flowing through ½-inch tubing choke from 5170 feet. The gas-oil ratio was 300 to 1.

Checks With Sligo

The 36 feet of lime formation logged in DeSoto Oil & Gas Company's Dunn & Olsen 1, CN½ NW 15-16n-10w, Bienville Parish, which in a drill-stem test from 5200 to 5236 feet showed five million feet of gas, has been identified as basal Glen Rose, corresponding to the Petitt sand of the Sligo field, Bossier Parish.

With elevation of 259 feet, this test logged massive anhydrite from 3985 to 4217 feet and base of the lower stringer from 4276 to 4301 feet. In what corresponds to the Jeter sand of Sligo, under the anhydrite, this test showed salt water at 4429 to 4460 feet and cored and drilled to the Petitt horizon where the gas appeared. Seven-inch casing was cemented at 3200 feet.

This test on the Petitt checks 26 feet lower than Producers Oil & Gas Company's Section 7-17n-11w, discovery Petitt sand gasser in Sligo, and 8 feet higher than United Gas Company's Skannal F-1, Section 23-17n-12w, the first Petitt sand oil well of the field. It also checks 459 feet higher than a test, Thomas 1, Section 27-16n-9w, drilled by Borden and associates.

Due to developments in Sligo, United Gas Company has been active in leasing available acreage in the old Elm Grove field in township 16 north, range 12 west.

Magnolia Petroleum Company has joined in leasing around the flanks of the shallow Bellevue field, in township 19 north, range 11 west, where Shell Petroleum Corporation recently has been leasing and where considerable geophysical activity has been reported.

Negotiations are reported under way by a company to secure the holdings of Bliss & Weatherbee in Bellevue for a proposed 7500-foot test, but so far nothing definite on this has been announced.

Benedum & Trees Oil Company has leased about 3000 acres in and around the old Naborton field, the block centering around Section 33-13n-12w, for a proposed 5000-foot test. Naborton has shallow production in the Nacatoch and in the Tokio around 2800 feet.

SOUTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BLACK BAYOU—		
Shell, Watkins 35	602	4639
BAYOU BLUE—		
Humble, Wilbert 1,	*	4291
CHARENTON—		
Pan American, Lawes 1, (wo)	400	7203
ENGLISH BAYOU—		
Fohs, Powers 3	530	7060
IOWA—		
Shell, Heyd 21	570	6562
SULPHUR—		
Union Sulphur, Fee 834	*	4290
WEST HACKBERRY—		
Superior, D. Hebert 1	*	6026
PLAQUEMINES PARISH—		
Gulf, State 2, in Bay Adams, 32-19s-28e	*	2700
ST. LANDRY PARISH—		
Stanley Thompson, Lewis 1, ne of Port Barre, 29-5s-6e	*	6000
Superior, A. Savoie 1, ne of Bosco, 26-8s-3e	*	9428

*Failures; †Junked; ¶Million cu. ft. gas.

13 LOUISIANA PERMITS

Shreveport, La.—Thirteen drilling permits were authorized last week by the minerals division, Louisiana Conservation Commission. Eight were for North Louisiana, divided between Caddo Parish with six, including five in Rodessa, and Claiborne Parish, with two. The five in South Louisiana were divided among the following parishes: Acadia, one; Iberia, one; Iberville, one; and St. Mary, two.

NORTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Rodessa)—		
J. G. Collins, School Board 2, 8-23n-15w	¶5 & 100	6071
TEXAS—CASS COUNTY (Rodessa)—		
Magnolia, Wall & McLeod 3, Alex Archer sur	1200	6100
Wall & McLeod 4, Alex Archer sur.	1000	6055
Meda Green 3, Robt. Trammell sur.	1200	6045
Mary Rives 10, John Collum sur.	1200	6045
George Est. 12, John Collum sur.	1000	6090
Ohio Oil Co., Willis 10, SFIW Sur.	1200	5950
Tidewater, Chew 2, Robt. Trammel sur	1200	6010
Stray Oil Co., Scott 1, Robt. Trammell sur	1000	6005
BOSSIER PARISH (Sligo)—		
United Gas, Skannal G-1, 22-17n-12w.	1193	5170
WEBSTER PARISH—		
Seaboard, Cotton Valley L&T Co. 1, 35-22n-10w	*	6084
CADDO PARISH (Blanchard)—		
Producers O&G Co., Currie et al 2, 32-19n-16w	*	950
FRANKLIN PARISH—		
Sherrouse & Snyder, B. C. Kimble 1, 36-12n-8e	*	3010
MOREHOUSE PARISH (Monroe)—		
S. D. Hunter, Trustee, Allison 13, 37-21n-4e	¶2	2210
NATCHITOCHES PARISH—		
Union Pet. Co., DeBlieux 2, 83-10n-7w	*	3951

*Failures; †Junked; ¶Million cu. ft. gas.

MILLER TEST SALT
Plan to drill deeper to try Travis Peak

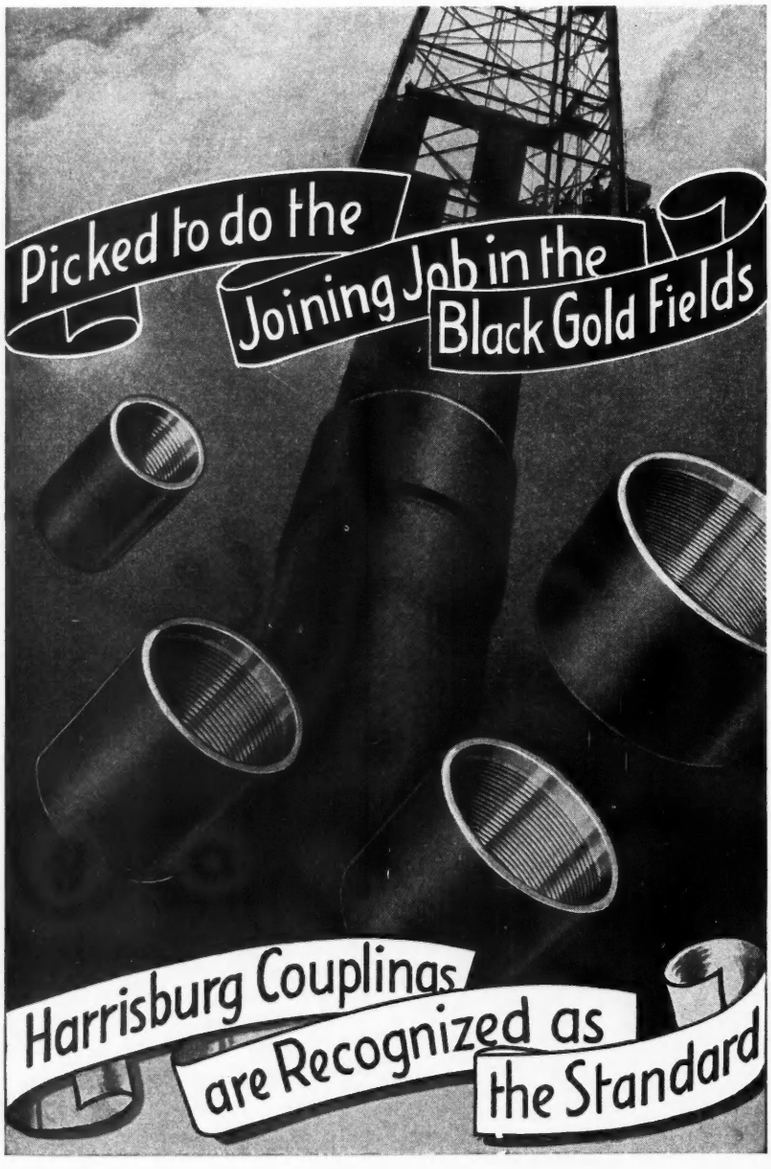
WEEKLY STAFF REPORT

El Dorado, Ark.—Joiner and associates (Odell Hinson) tested a hole full of salt water last week in Montana Realty Company 1, NE NW NW 3-17-28, Miller County, when the well was bailed at 5278 feet, after 7-inch casing had been cemented at 5270 feet; elevation is 225 feet. The test may be deepened to the top of th Travis Peak.

Meanwhile, C. V. Lenz continued to swab from 25 to 70 barrels of 45.3 gravity oil daily from Dale 7, Section 24-15-26, Miller County, 2 miles northeast of the shallow Garland City field, but later in the week was preparing to standardize with about 3500 feet of oil standing in the hole. Total depth is 4216 feet, with casing cemented at 4210 feet, top of the saturation; elevation is 229.8 feet.

Plans are reported under way to deepen Phillips Petroleum Company's A. T. Morgan 1, Section 18-18-17, a wildcat in Union County, drilled several months ago to below 4500 feet.

Benedum & Trees Oil Company announced five new locations for the new shallow Troy field in Nevada County. In its Groves Land & Timber Company 5, NE SW NW 10-14-20, after topping Nacatosh sand at 1190 feet, this test showed a heavy gas flow in drill stem test to 1210 feet, and then after coring to 1223 feet with a broken oil sand appearing it was arranging for another test. L. M. Glascoe's Ritchie 1, NW SE 10-14-20, was standing with 750 feet of oil in the hole and was being standardized in 6 feet of sand; total depth is 1271 feet in Nacatosh. Benedum & Trees' C. C. Fincher 1, SW SW NE 10-14-20, is flowing 15 to 20 barrels of oil daily through casing after logging 10 feet of formation; total depth is 1271 feet.



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HARRISBURG STEEL CORPORATION

5 ARKANSAS PERMITS

El Dorado, Ark.—Five drilling permits were authorized last week by the Arkansas Board of Conservation, all being issued to Benedum and Trees Oil Company, Pittsburgh, Pennsylvania, for tests in the new shallow Troy field, Nevada County. A list of the five permits follows: Grove Land and Timber Company 6, 330 feet north and west SEc SE NW 10-14-20; Groves Land and Timber Company 7, 330 feet south and east NWc SW NW 10-14-20; Grove Land and Timber Company 8, 330 feet north and east SWc SW NW 10-14-20; Grove Land and Timber Company 9, 330 feet south and west NEc NE SW 10-14-20; and C. C. Fincher 2, 330 feet north and east SWc SW NE 10-14-20.

RUMOR DOME
Sun's Mississippi test is shut down to move

Jackson, Miss.—Sun Oil Company's Semmes & Scanland 1, C SW NE 28-4n-15w, Lamar County, south Mississippi, has shut down at 2177 feet, supposedly for fuel, but it is rumored that the location will be abandoned at that depth due to having encountered a salt dome, and the rig will be moved to another location on the same block after further exploration work.

No information as to markers or structure has been given out since the well cemented casing at 1623 feet, but it is reported to have checked abnormally high and reportedly encountered anhydrite around 1700 feet; elevation is 317 feet.

During the last week it was reported that Tide Water Oil Company was planning to check a block on which Mike Khouri drilled a test, the block centering in Township 2 north, Range 14 west. This company also is reported planning some geophysical work in Pike County, Mississippi.

Gulf Research Corporation has moved a gravimeter unit into Forrest County, which is working westward from the village of Brooklyn.

An electrical tester was run last week week in State of Mississipi's Fee 2, NW NW 25-6n-1e, Hinds County, after a dry sand was logged at 2846 to 2852 feet. Base of Selma chalk was reported at 2842 feet; elevation is 326.5 feet.

Seeking Record

10,007-FOOT PRODUCTION POSSIBILITY AT VENTURA

WEEKLY STAFF REPORT

Los Angeles.—There is a chance Associated Oil Company will complete another world record depth producing well before the first of the new year, displacing its own record, held for years, as having the deepest commercial producer in the world*. McGonigle 12, Ventura Avenue field, a northeast edge test, has reached a total depth of 10,007 feet and a string of 5¾-inch has been cemented on bottom. After cement has time to set, it will be drilled out and several additional cores will be taken, taking the hole down to a still greater depth. The bottom of the hole is in sand, but whether or not it is an oil sand is hard to say, since core recoveries have not been very god at this extreme depth. McGonigle 12 cemented 9-inch at 8102 feet.

The present California record depth for a commercial producer is held by Associated Oil Company's Lloyd 83 in the Ventura Avenue field. It has been producing for some time, with bottom of hole at 9710 feet. The Associated is drilling Lloyd 131 in the Ventura Avenue at 9846 feet after having cemented 8⅝-inch at 8541 feet.

Five New Ones at El Segundo

In the new El Segundo field in Los Angeles Basin, Richfield Oil Company's El Segundo 1, completed December 7, has been beaned (choked) back to 2240 barrels of clean oil and 1,600,000 cubic feet of gas through 77/64-inch bean. The pressure is 110 pounds on the tubing and 1400 pounds on the casing. Richfield has made location for two more wells to be spudded at once, and Caminol Company, Republic Petroleum Company and Ohio Oil Company have announced locations for one new well each. Ohio Oil Company has already spudded Gough 2 and is drilling ahead.

A well good for 1800 barrels of 14 gravity clean oil on the compressor was recently completed by Barnsdall Oil Company at Gato Ridge in Santa Barbara County, California, when Tognazzini 2 was tested with bottom at 2500 feet. A string of 10¾-inch had been cemented at 1800 feet, and 724 feet of 8⅝-inch liner, all perforated, had been placed at 2498 feet.

Associated Oil Company's Reward 5, Section 34-27-20, North Belridge field in Kern County, is flowing at the rate of 1610 barrels of 30 gravity clean oil, with bottom at 9027 feet. The 7-inch string of casing was cemented at 8364 feet. A total of 716 feet of 4¾-inch liner, all perforated, was landed at 9022 feet. This well started flowing 90 barrels an hour through casing while running liner, and was killed to permit running tubing.

Signal Finance Corporation's Woods 1, wildcat in the Hawthorne area, 14 miles southwest of Los Angeles, was swabbed down to about 400 feet, and on December 3 started flowing muddy water with a little gas, at the estimated rate of 1000 barrels a day. During 3 days of flow the gas volume increased considerably, and fairly consistent colors of oil appeared. The flow was killed December 6 and the tubing was pulled. Hole will be cleaned out to the bottom at 9326 feet, and about 2225 feet of 4¾-inch liner will be run before continuing the test. The hole was bottomed at 9326 feet in the conglomerate zone, and the 6⅝-inch water string was cemented at 7128 feet. Until the setting of the 6⅝-inch, this was the first well known to have been drilled with 8816 feet of open hole.

Only Minor Showings Found

Standard Oil Company's Bodger 1, wildcat 15 miles southwest of Los Angeles in Section 22-3s-14w, is being cored ahead at 7828 feet in shale with thin streaks of sand. Very minor showings of oil or gas have so far been found in this hole. However, formation testers are being run at frequent intervals as a precautionary measure only.

Hall-Baker Company's Tejon 1-10, wildcat in the Grapevine area 30 miles south of Bakersfield, cored the top of the Valvulinaria silt at 2000 feet and is being cored ahead in this formation at 2369 feet. The present objective is the Temblor (middle Miocene) sand. A formation test of the Santa Margarita (upper Miocene) oil sand, cored about 1920-2000 feet, was attempted but failed. No further attempts to test this zone will be made until the drilling is completed. Location is a quarter mile southeast from Reserve Oil & Gas Company's Tejon 1, which was completed June 18, 1935, pumping 50 barrels a day net of 16 gravity oil cutting 50 percent.

Premier Extension Likely

Roscoe & Stanley's No. 1, semi-wildcat extension test in Section 29-27s-27e, 12 miles north of Bakersfield, appears to have extended Premier oil field. The base of the Etchegoin (lower Pliocene) was cored at 2485 feet and oil sand was cored 2540-2660 feet. The 8⅝-inch casing is being run to cement at 2540 feet.

E. B. Milburn's No. 1 semi-wildcat test in Section 10-28s-27e, 9 miles north of Bakersfield, cored oil sand to 2232 feet and is standing cemented with 8⅝-inch casing set at 2075 feet. This well appears to have discovered a northerly extension to the Kern Front oil field.

Completion in Adam Field

In the Adam oil field at the southeast edge of Santa Maria, Union Oil Company's Vincent 1 was completed December 9, flowing 1641 barrels in 19 hours net of 15 gravity oil cutting 10 percent, and 233,000 cubic feet of gas. Flow was through 55/64-inch choke, with tubing and casing pressures of 90 and 220 pounds, respectively. Production is 2705 barrels a day net of 15 gravity oil cutting 3.1 percent, and 480,000 cubic feet of gas. Flow is through 75/64-inch choke, and tubing and casing pressures are 100 pounds and 270 pounds, respectively. This is by far the largest producer completed in this rapidly developing new field. Depth is 4211 feet, with 8⅝-inch water string cemented at 2937 feet, and 1318 feet of 6⅝-inch liner, including 1274 feet of 180-mesh perforations, landed at 4208 feet. The 3-inch tubing is hung at 4123 feet.

Mountain View Extension Wet

Mohawk Petroleum Company's Earl Fruit 2, Section 10-31s-29e, 15 miles southeast of Bakersfield, tested wet on swabbing following its third attempt to cement 6⅝-inch water string at 6070 feet. The casing will not be recemented at present. A 6⅝-inch liner, 235 feet long, including 65 feet of perforated, was landed at 6116 feet, and cemented through perforations at 6051 feet. Tubing is being run, with a packer to set in the blank portion of the liner, and swabbing will be continued. Depth is 6164 feet, bottomed in schist. This well is a semi-wildcat test of an extension of the Mountain View oil field.

The first well to obtain Temblor zone production at Mountain View was

*The world's deepest natural flowing commercial producer is Harrison and Abercrombie's Armstrong Plantation 1 at Old Ocean field in Brazoria County, Texas Gulf Coast. The well is flowing from 9963 feet. It was completed in 1936.

CALIFORNIA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EL SEGUNDO—		
Richfield Oil Co., El Segundo 1	2400	7435
HUNTINGTON BEACH—		
South Basin Oil Co., No. 93	350	3990
GARDENA AREA—		
West American Oil Co., Dominguez Est 1	*	6865
WILMINGTON—		
General Pet. Corp., Terminal 1	1630	3648
KERN FRONT—		
Bishop Oil Co., No. 10	200	2019
General Pet. Corp., Wetmore 15	110	2017
National Oil Co., No. 5	30	1840
M. H. Whittier Co., Cauley 2	75	2868
MIDWAY SUNSET—		
Berry Oil Co., No. 23	60	1137
D. D. Dunlap, Sunset 1	60	2782
Honolulu Oil Corp., No. 6	165	3570
No. 16	580	3426
MOUNTAIN VIEW—		
Mid-State Pet. Co., No. 1	250	4886
MOUNT POSO—		
Ring Pet. Co., Knapp 1	55	1522
ADAM—		
Union, Vincent 1	2705	4211
ROUND MOUNTAIN—		
Calif. Western Oil Co., No. 18	*	1627
SAN JOAQUIN COUNTY—		
Standard, McDonald Island 1	*	5712

*Failures; †Junked; ¶Million cu. ft. gas.

Shell Oil Company's Porter-Day No. 1, which was drilled to that horizon more than four years ago.

Another well that is getting the attention of field scouts is the Mohawk Petroleum Company's Hood 3, situated in the central portion of the field and just southeast of the Wood-Callahan Oil Company's National lease. Hood 3 was down to 7650 feet in brown shale with heavy gas showings. The Temblor was expected to be picked up about 100 feet deeper, although reports are to the effect that Mohawk would continue on into the Vedder zone which is believed to underlie that area.

Many operators at Mountain View may be compelled to start offset projects to protect their acreage against drainage, thus precipitating another drilling spree that might upset the conservative elements in the field. On the other hand, development of deeper productive zones would prove up reserves for future uses.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARENAC COUNTY—		
McClanahan Oil Co.'s Mee 1, ne se sw, 11-20n-4e	*	2635
GLADWIN COUNTY—		
M. F. Whitehill's King 3, sw se nw, 2-17n-2w	40	3900
GRATIOT COUNTY—		
Ithaca Exploration's Hart 1, sw sw nw, 10-10n-3w	*	3198
C. L. Larson's Price 1, c se ne, 5-10n-4w	¶3	1011
ISABELLA COUNTY—		
J. W. McIntosh's Collins 1, se ne, 19-15n-3w	40	3680
Michigan City's Bacome 1, w½ s 50a, nw, 19-13n-4w	*	1628
MIDLAND COUNTY—		
E. Schelling's Scott 1, nw se nw, 8-14n-2w	30	3590
W. H. Atha's Taulker A-3, sw se ne, 7-14n-1w	*	3680
MONTCALM COUNTY—		
Cooksey-Morris' Pugsley 4, ne ne sw 26-11n-5w	200	3246
Burnstein Oil Co.'s Kirker A3, ne se ne, 36-11n-5w	206	3199
Eagle Oil Co.'s Kirker 1, c nw se 36-11n-5w	*	1037
MUSKEGON COUNTY—		
West Michigan Cons.' Sperry 1, c ne, 8-9n-14w	¶1	1223
OGEMAW COUNTY—		
Morris Barne's Golf Club 6, nw se sw, 20-22n-2e	45	2728
Kerr & Stanley's Fisk 3, ne sw sw 27-22n-2e	30	2716

*Failures; †Junked; ¶Million cu. ft. gas.

INCREASED FLOW

Arenac discovery well responds to treating

WEEKLY STAFF REPORT

Mt. Pleasant, Mich. — McClanahan Oil Company's Seignious 1, Sec 4-20n-4e, Arenac County, discovery well, completed on November 15 at 2506 feet in Dundee lime for 990 barrels natural, increased to an estimated 1700 barrels after a 1000-gallon acid shot on December 14. Following acid test it flowed 54, 67, 89 and 69 barrels the first 4 hours and averaged 69 barrels the first 19 hours through 2-inch line. The well was producing between 1050 and 1200 barrels when tubed and treated.

Seignious 1 logged Dundee at 2455 and had a 10 barrel an hour pay at 2470 feet. Major increase in deepening to 2506 feet was between 2470-90 feet.

While the acid results considerably boomed optimism in the district, the same company's Mee 1, Sec 11-20n-4e, 1¼ miles southeast after logging Dundee top at 2467 feet had water at 2630 feet and probably will be abandoned. Oil saturation in a porosity lacking formation was logged at 2523 feet with shows to 2580 feet.

Previous core tests in the Clayton district have indicated a steep and abrupt structure but failure of the Mee to show any saturation until nearly 100 feet in as compared to the discovery with flowing production 15 feet in caused many operators no little uneasiness. The West Branch field in Ogemaw County only 25 miles northwest of the Clayton discovery, produces from a tight Dundee limestone from 150 to 200 feet in the formation. Acid or nitro shooting is common practice to make a well commercial.

Despite the early optimistic outlook for the district based on the discovery-well production, lack of porosity may prove a setback in the play. The Mee test was reported only 8 feet structurally lower than the discovery.

New starts this week brought the total to 14 active operations in Clayton township.

Daily Crude Oil Company was still trying to complete Weatherby 1, Section 20-12n-9w, Montcalm County, after dropping the swab following acid treatment of the wildcat. Production by head flows through tubing and casing has reached as high as 49 barrels over 24 hours and averaged between 20 and 30 barrels for 10 days. A new engine was to be set this week and tubing pulled.

No new starts have been reported for the area.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ATHENS COUNTY—		
Carpenter & Glazier, I. J. Smith 14	20	308
Ohio FG Co., Black Diamond & Coal Co. 16	¶	....
W. E. Seeman 1	¶	875
Williams Bros., Wm. Crippin 2	*	981
COSHOCTON COUNTY—		
Hulse-Kundtz, Inc., Chas. E. Moore 3	90	....
HOLMES COUNTY—		
Wooster Dr. Co., Barbara Young 1	¶	2806
Ohio FG Co., Fred Heffelfinger 1	¶	2824
Maud Harrold 1	¶	3300
Burgess Bird 1	¶	3211
T. W. Strouse 1	¶	3370
KNOX COUNTY—		
Ohio FG Co., Lem Strucker 2	¶	3035
Upham Gas Co., Carlos Simmons 1	40	3232
LICKING COUNTY—		
Blue Rock Oil Co., Chas. Badcock 4	31	2558
Ruthledge & Mossholder, Wm. Teagardner 2	9	....
Wm. Teagardner 3	10	....
Armstrong & Lytle, J. L. Mothers-paw 18	3	....
MEDINA COUNTY—		
Ohio FG Co., Blanch Ziegler 1	*	2589
Geo. Ratajchak 1	¶	3116
MEIGS COUNTY—		
Marshall Reed, Lafarette Romine 4	¶	745
Meigs Dev. Co., Mary Jivid 2	¶	2038
Cora Ater & Co., Laura Mohler 1	¶	....
Ohio FG Co., Clyde White 1	¶	3703
MORGAN COUNTY—		
Appleman Bros., Wm. Masterson 2	*	1343
Penn Constr. Co., W. M. Hilman 2	¶	890
PERRY COUNTY—		
Preston Oil Co., Sunday Creek Coal Co. 141	130	3604
Wehrle Bros., Worley Deaver 4	¶	1073
STARK COUNTY—		
Lyons & Co., Hiram Shaub 2	¶	4592
McFarland & Co., John Faschnacht 3	¶	4593
Lyons & Co., Mary Hanson 1	*	3981
East Ohio Gas Co., B. W. Johnson 1	*	4139
T. J. & J. W. Sorrick 1	¶	....
Arthur B. Clay 1	4207	....
John & Lean Hepple 1	*	4268
SUMMITT COUNTY—		
East Ohio Gas Co., Chas. A. Daily 1	¶	4042
Stevenson & Pendergrast, Brooks Johnson 2	¶	600
WASHINGTON COUNTY—		
Milloy & Wilson, Mary Ann Wilson 13	1	940
Martin & Son, Ella Martin 27	2	405
D. T. Orndoff, Robt. Hayes 8	*	800
Bode & Thomas, R. S. Cunningham 5	*	700

KENTUCKY

Cane Run Petroleum, A. F. Bellamy 14	¶	....

*Failures; †Junked; ¶Million cu. ft. gas.

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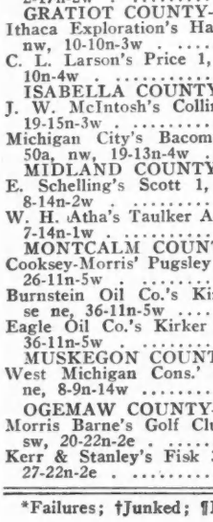

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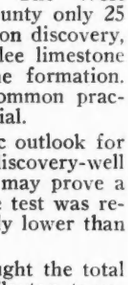


No. 3480 W. H. CURTIN & COMPANY, INC.

HOUSTON, TEXAS

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, elev 191 ft, installing heavier rig to deepen td 4002 ft.

MOBILE COUNTY—Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

ARKANSAS

CLEVELAND COUNTY—J. R. Lockhart's I. Robertson 1, sw se 36-10n-11, dr 3055 ft shale.

DALLAS COUNTY—Walter Lown's Atkinson 1, ne nw se 7-10-13, claim so in sand, sd cur titles, td 2418 ft sand.

GRANT COUNTY—Wallace & Staples' W. F. Davis 1, se se nw 23-6-15, tested sg in ds test in sand from 1861-69 ft, arr deepen, td 1869 ft.

HEMPSTEAD COUNTY—H. D. Easton et al's Conway-Tiller 2, sw sw 34-12-27, elev 251 ft, sd 3005 ft, high water. Root Pet. Co.'s Jones 1, ne sw ne 16-13-23, elev 348 ft, top Nacatosh 595 ft, base chalk 1253 ft, top Tokio 1613 ft, massive anhydrite 1891-1977 ft, tested est 25,000 cubic ft dry gas 2108-13 ft, logged sw sand 2178-87 ft, coring 2287 ft red shale

LA FAYETTE COUNTY — A. M. Neel's Meek 1, ne nw 35-19-25, sd 800 ft.

MILLER COUNTY—Joiner et al's (Odell Hinson), Montana Realty Co. 1, ne nw nw 3-17-28, elev 225 ft, top anhydrite stringer 4510 ft, massive anhydrite 4712-4815 ft, base lower stringer 4917 ft, 7-in cas 5270 ft, bailed hole full sw, sd, td 5278 ft. C. V. Lenz's Dale 7, 24-15-26, 7-in csg 4208 ft, swabbed 25 to 70 bbls 45.3 grav oil daily 3500 ft oih, running sand pump, arr standardize, td 4216 ft. J. T. Parke et al's Dean et al 1, sw se 24-15-26, (1800-ft Lenz test), coring 4116 ft.

NEVADA COUNTY — Benedum & Trees' Grove L&T Co. 4, sw nw 10-14-20, rur. Grove L&T Co. 5, ne sw nw 10-14-20, tested gas 1190-1210 ft, core oil sand 1210-23 ft, arr test through drill stem, td 1223 ft. Grove L&T Co. 6, se se nw 10-14-20, lcn. Grove L&T Co. 7, nw sw nw 10-14-20, lcn. Grove L&T Co. 8, sw sw nw 10-14-20, lcn. Grove L&T Co. 9, ne ne sw 10-14-20, lcn; Block 1, ne ne se 9-14-20, spd; C. C. Fincher 1, nw sw ne 10-14-20, top Nacatosh sand 1264 ft, 7-in cas 1264 ft, td 1271 ft, flowing 15 to 25 bbls oil daily by heads thru csg, td 1271 ft; C. C. Fincher 2, sw sw ne 10-14-20, mim. Jno. R. Lewis' Wm. Haynie 1, sw sw ne 10-14-20, sd 975 ft. L. M. Glascoe's Ritchie 1, nw se 10-14-20, 750 ft oih, wosr, td 1271 ft; Ritchie 2, 3 and 4, nw se 10-14-20, lcns.

POPE COUNTY—Ark. La. Gas Co.'s L. C. Smith 1, sw sw se 10-8n-21w, 13⅜ in csg 1997 ft, dr 3489 ft.

PULASKI COUNTY — A. L. Kitselman's Fee 1, 2-1s-13w, sd 792 ft.

SALINE COUNTY — Duncan et al's Williams 1, 18-3-15, ru and sd.

UNION COUNTY—Phillips Pet. Co.'s Morgan 1, c s½ 18-18-17, owdd.

CALIFORNIA

CANTUA CREEK—Mohawk Pet. Co.'s Langer 1, 30-16-15, dr shale 6174 ft. Western Gulf's S.P. Land Co. 3, 3-17-15, td 8531 ft, redr. at 7741 ft.

KERN COUNTY

LERDO—Arkelo Pet. Co.'s Arkelo 1, 23-28-26, td 6862 ft, coring o.s. to run formation tester.

RIO BRAVO—Associated's K.C.L. 1, 30-29-25, td 7683 ft, to set casing. Standard's K.C. 11-1, 19-29-26, td 7807 ft, to set casing.

LOST HILLS—Associated's Elliott 8, 11-26-20, rig; Williamson 12-A-3, 11-26-20, sd 1675 ft. Lincoln Pet. Co.'s No. 1, 12-26-20, td 1846 ft, plug 1140 ft, to test on pump; Theta 2, 12-26-20, sd 2830 ft. Standard's United 2, 2-26-20, dr shale 1065 ft, set 10¾ in. at 245 ft. Texas Co.'s Theta 1, 11-26-20, td 2037 ft, plug 1958 ft, pumping 323 bbls, 2 percent oil.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so&g—*show oil and gas.*
fsg—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

SO. MARICOPA—E. A. Bender's Robinson 1, 14-10-23, td 1235 ft, plug 750 ft, pumping oil and water. Trans-Line Pet. Corp.'s No. 1, 3-10-23, dr hard shale 216 ft.

GREENFIELD — British American's Smith 1-A, 21-31-27, td 1128 ft, wocs 20 in. on bottom.

SAN EMIDIO—I. L. Burch's No. 1, 3-10-23, td 1815 ft, rep. equip.

MOUNT POSO—Calcoast Oil Co.'s K.C.L. A-1, 8-27-24, td 6503 ft, reconditioning hole.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, dr brown shale 1826 ft. H. C. & E. A. Long's No. 1, 20-25-19, dr hard shale 714 ft. Lube Oil Co.'s No. 1, 2-25-18, dr shale 550 ft.

JASMINE—Doyle Pet. Co.'s Quinn 1, 15-25-27, td 2956 ft, plug 2882 ft, bailing 13 gravity oil, fluid level 1500 ft.

EAST EDISON—East Edison Oil Co.'s Tejon 1, 21-30-30, td 1130 ft, bailing water no oil; No. 2, 22-30-30, lcn.

ARVIN—General Pet. Corp.'s Arvin 1, 26-31-29, td 7462 ft, recemented 6⅝ in. at 6570 ft. Superior Oil Co.'s No. 1, 26-31-29, rig.

GRAPEVINE—Hall-Baker Co.'s Tejon 1-10, 12-10-19, dr shale 2368 ft. 99 Oil Co.'s Tejon 1, 5-10-19, dr sandy shale 375 ft. Ohio Oil Co.'s Title Ins. D-1, 21-11-19, dr hard shale 5877 ft. Reserve Oil & Gas Co.'s Ritchie 33-1, 33-11-19 td 6030 ft, plug 4990 ft, sd; Tejon 33-2, 33-11-19, td 4505 ft, plug 4414 ft, sd; Tejon 33-3, dr shale 1260 ft.

MOUNTAIN VIEW — Mohawk Pet. Co.'s Earl Fruit 2, 10-31-29, td 6164 ft, preparing to test; Earl Fruit 3, 4-31-29, rig. Shell's Greer 1, 15-31-29, td 6171 ft plug 6148 ft, testing.

KERN FRONT—Hiskay Den Oil Co.'s Sesnon 2, 17-28-27, td 2920 ft, to run liner for test; No. 3-A, 17-28-27, foundation.

TEN SECTION—Superior Oil Co.'s K.C.L. 8, 11-30-26, dr hard shale and gray sand 8040 ft.

MISCELLANEOUS

KINGS COUNTY—Associated's Avenal 2, 35-23-17, spud 12/9, dr. A. S. Clare's Laymance 1, 20-20-22, bldg rig. Milheim Oil Corp.'s Resources 1, 20-22-22, td 5810 ft, plug 1600 ft, to redr.

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, dr shale 6724 ft.

SAN BENITO COUNTY—Associated's Murphy Ranch 1, 5-12-4, td 4784 ft, plug 3909 ft, to sidetrack.

SAN JOAQUIN COUNTY—Standard's McDonald Island 1, 19-2-5, td 5712 ft, formation tester recovered only water, abn.

SOLANO COUNTY—Amerada Pet. Corp.'s Hamilton 1, 26-4-2, td 6792 ft, running formation tester; Hoppe 1, 22-4-2, sd 7029 ft; Serpa 1, 23-4-2, grading lcn.

SUTTER COUNTY—Buttes Oilfield's Sutter 4, 2-15-1, td 3210 ft, formation tester recovered salt water at 2995 ft.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, sd 1023 ft. R. R. Ellis' Ellis 1, 20-24-23, rig. E. P. Jennings' No. 1, 4-24-23, td 2820 ft, co. Seaboard Oil Corp.'s Security 1, 16-22-26, material on lcn. Trico Oil & Gas Co.'s Calif. Western 1, 2-23-23, sd 1800 ft; Callison 1, 27-21-23, sd 3377 ft.

MONTEREY COUNTY—Amil A. Anderson's No. 1, 15-24-14, rur. Shell's Branch 2, 34-24-10, td 5115 ft, dr pipe stuck, circulating. Texas Co.'s Dunphy 1, 30-19-7, rur.

SAN LUIS OBISPO COUNTY—Aviation Oil Co.'s Brintnall 1, 10-11-35, dr shale 65 ft. Cholame Syn.'s Jack 2, 10-25-15, td 3648 ft, trying to locate water. A. T. Jergins' Trust Indian Knob 1, 26-31-12, dr shale 1420 ft. R. W. McBurney's No. 1, 23-32-22, td 2150 ft, pumping water trace oil. Union's Porter 1, 22-32-15, dr hard shale 3550 ft. United Foreign Oil Co.'s Panorama 2, 2-32-21, dr conglomerate shale and sand 2330 ft.

SANTA BARBARA COUNTY

EL CAPITAN—Associated's Edwards Estate 1, 2-4-30, td 2450 ft, to set casing.

GATO RIDGE—Barnsdall Oil Co.'s Tognazzini 2, 9-8-32, td 2550 ft, to test on pump. O. C. Field Gasoline Corp.'s Continental 1, 4-8-32, grade. Ben Moyle's Arrata 1, 4-8-32, foundation. Petrol Corp.'s Tognazzini 1-A, 9-8-32, spud Dec. 12, dr. Todas Santos' McLoney 1, 4-8-32, sd 50 ft.

SUMMERLAND—Julias Dietzman's Fithian 1, 8-4-25, td 1025 ft, to dr deeper.

LOMPOC—O. C. Fields' Santa Rita 1, 11-7-33, sd 2064 ft. Top Row Oil Co.'s Spanne 1, 6-35, sd 1310 ft.

CUYAMA—Daniel Fisher's No. 1, 28-11-28, spud Dec. 1, dr.

CASMALIA—Golden Bear Oil Co. No. 1, 20-9-34, rig. Todos Santos Oil Co.'s No. 1, 29-9-34, td 2365 ft, plug 1705 ft, sd.

BETTERAVIA—E. H. Moore's Union Sugar A-1, 25-10-35, td 8020 ft, redr at 4263 ft.

POINT CONCEPTION—101 Oil Co.'s Hollister 1, 35-5-33, dr sand and shale 358 ft.

SANTA MARIA—W. D. Shaffer's Honk 1, 9-9-3, dr sand and shale 856 ft.

VENTURA COUNTY

OXNARD—Vaca Oil Explor. Co.'s Calif. Lands 1, 6-1-21, td 2830 ft, plug 2150 ft, running tubing.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, sd 9525 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall Oil Co.'s Rancho S. F. 1, 26-4-17, dr hard sand and shale 5795 ft. Holbrook Pet. Co.'s Newhall L & F Co. 1, 28-4-16, td 4025 ft, rigging heavier equip.

LYNWOOD—Calizoo Oil Co.'s Salzue 1, 9-3-13, td 3960 ft, dr shale streaks shale.

LOS ALAMITOS—Calmont Oil Co.'s Montana 1, 14-4-12-lcn.

WHITTIER—N. H. Clayton's No. 1, 22-2-11, dr shale 750 ft.

NO. LONG BEACH — Geo. L. Clayton's Clayton 1, 32-3-12, dr shale 950 ft.

EAST WHITTIER—Drillers, Inc.'s No. 1, 22-2-11, rur.

CLEARWATER—H. Heide's Rogers 1, 20-3-12, bldg rig.

MONTEBELLO—Honolulu Oil Corp.'s Core Hole 1, 14-2-12, rig.

PUENTE—Honolulu Oil Corp.'s Butler 1, 15-2-10, rur.

WALNUT—Julian & Criswell's Langstaff 1, 5-2-9, dr brown shale streaks sand slight show o and g, 711 ft.

ASCOT SPEEDWAY—Republic Pet. Co.'s Jordan 1, 24-1-13, td 1567 ft, plug 1468 ft, sd, may abn.

ROSECRANS—Shell's McKinley 4-1, 20-3-13, dr sand and shale 3353 ft.

HAWTHORNE — Signal Finance Corp.'s Woods 1, 10-3-14, td 9326 ft, flowed 1000 bbls, muddy water trace of o and g, to 4¾ in. liner to land on bottom.

GARDENA—Standard's Bodger 1, 22-3-14, dr sand and shale 7827 ft. Universal Cons. Oil Co.'s Carrell 1, 36-3-14, dr sand and shale 6120 ft.

FOX HILLS—Superior Oil Co.'s Inglewood Ext. 1, 25-2-15, dr shale 9290 ft.

DAVIDSON CITY—Cornelius G. Willis' Flood Control 1, 11-4-13, (formerly Shell Oil Co.) td 4307 ft, redr. at 2450 ft.

ORANGE COUNTY — Calif. Eastern Oil Co.'s Verde 1, 31-3-9, td 4750 ft, running formation tester. Mesa Oil Co.'s Mesa 1, 29-6-10, dr hard shale 3590 ft. West Coast Ref. Co.'s Yorba 1, dr brown shale, may be in fault zone, may redr.

FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se se 17-24s-25e, elev 120 ft, coring below 5668 ft.

NASSAU COUNTY—St. Mary's River Oil Corp.'s Hilliard Turpentine Co. 1, nw ne se 19-4n-24e, elev 110 ft, 12½ in csg 822 ft.

POLK COUNTY—Edward A. Hill's Polk County Lbr. Co. 1, nw ne 32-25s-25e, elev 90 ft, dk.

KANSAS

BARBER COUNTY—Sinclair Prairie's Gentry 1, ne ne ne 1-33s-15w, pb 4792 ft. Pure's Palmer 1, se ne sw 10-33s-10w, dr 3500 ft.

BARTON COUNTY—C. L. Price's Deutsch 1, nw nw ne 16-16s-13w, 2800 ft oih 9 hrs. Minnehoma O&G Co.'s Smith 1, nw nw ne 20-18s-13w, dr 2060 ft. Duee & Brouk's Baker 1, ne se sw 16-17s-13w, dr 575 ft. Freehorn et al's Sooy 1, nw nw ne 27-18s-12w, ru. John Burton's Wendel 1, ne ne ne 13-19s-11w, fsg 2570 ft. I. T. I. O. Co.'s Schrepel 1, se se ne 26-20s-11w, ru. Armer & Vernon O&G Co.'s Ainsworth 1, ne ne se 33-16s-13w, 1100 ft oih one hr.

BUTLER COUNTY—Wixon et al's Coulter 1, nw sw ne 3-27s-7e, set 10-in csg 1655 ft, co.

CHASE COUNTY—Hanna et al's Brothers 1, se se nw 25-20s-8w, rig. Propp et al's Fromm 1, se se se 29-18s-9e, dr 2422 ft.

COWLEY COUNTY—Home Natural Gas and McNish's Werner 2, se se sw 31-32s-6e, set 8-in csg 1984 ft. Wakefield et al's Tinker 1, nw nw se 26-32s-3e, td 3495 ft, D&A. Tom Palmer's Pierce 1, se se sw 14-31s-3e, dr 2100 ft. Austin & McKnabb's Wilson 1, ne ne se 20-32s-6e, dr 975 ft. C. H. Cross' Cook 1, sw sw sw 6-32s-6e, dr 1442 ft. Simpson Oil Co. & Stanolind O&G Co.'s Weigle 1, sw sw ne 18-31s-6e, rig.

EDWARDS COUNTY — Stanolind & Elwell's Donovan 1, cse se 14-25s-18w, dr 4629 ft.

ELLIS COUNTY—Empire's Samuelson 1, ne ne sw 31-11s-16w, ur 5-in csg. Ted Kerr et al's Koblitz 1, se sw nw 23-12s-18w, 1600 ft oih 16 hrs. Glick & McMorrow's Staab 1, sw sw se 6-13s-17w, dr 3520 ft. Taylor et al's Emery 1, ne ne ne 23-14s-18w, 300 ft oih. Murphy Oil Co.'s Wiesner 1, se se sw 12-14s-19w, dr 960 ft. Jones Bros. et al's Phillips 1, se se nw 9-15s-17w, dr 2140 ft. Lario Oil & Gas Co.'s Cress 1, ne ne ne 13-11s-17w, set 10-in csg 2198 ft. Loomis & Etyner's O'Laughlin 1, se se nw 27-13s-18w, rot rig.

ELLSWORTH COUNTY—Empire's Brown 1, se se nw 1-17s-9w, rur.

GRANT COUNTY—Columbian Fuel Co.'s Gray 1, cse 3-29s-35w, co.

GREENWOOD COUNTY — Scott et al's Pedroja 1, se ne se 6-26s-10e, flow 300 bbls oil 48 hrs. Holis et al's Boone 1, ne ne nw 21-26s-12e, dr 100 ft. Ohio's Schwab 1, se sw se 9-24s-10e, lcn.

HARVEY COUNTY—Harburney Oil Co.'s Schragg 1, nw nw se 24-22s-3w, sd 3350 ft. Saco et al's Guthrie 1, ne ne nw 8-22s-2e, ur 10-in csg 2374 ft.

KEARNEY COUNTY—J. L. Murphy et al's Campbell 1, nw nw sw 32-25s-35w, td 3595 ft.

LOGAN COUNTY—Rosespring Drlg. Co.'s Wright 1, cse se 12-15s-35w, cementing hole 3515 ft.

MARION COUNTY—Western Kansas O&R Co.'s Hauser 1, sw sw sw 19-19s-4e, dr 1900 ft.

MITCHELL COUNTY—Geo. Siedhoff et al's Greiss 1, sw sw se 16-8s-10w, dr 890 ft.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, sd 2450 ft.

RENO COUNTY—Miller et al's Detter 1, ne se nw 28-22s-7w, set 5-in csg 3875 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, fsg 3685 ft. Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, sd 1955 ft. Inca Prod. Corp.'s Moore 1, cne ne 26-24s-3w, sd 2860 ft. Empire's Schrock 1, nw nw ne 22-24s-5w, dr 1914 ft. Westgate-Greenland Oil Co.'s Fossey 1, sw sw se 12-22s-8w, dr 3630 ft, hfw.

RICE COUNTY—Carlock et al's Deweese 1, sw nw nw 32-20s-7w, sdo. Shell Pet. Corp.'s Soenken 1-A, cnw 10-19s-9w, to pb 2928 ft. Aylward et al's Johnson 1, nw nw ne 17-21s-7w, rust 3360 ft. I. T. I. O. Co.'s Fossey 1, sw sw ne 31-20s-10w, dr 1250 ft. Charles Pet. Corp.'s Speck 1, nw nw se 29-20s-8w, dr 2990 ft. Permian Oil Co.'s Monroe 1, cne ne 9-20s-7w, owdd, ru 8-in csg 2840 ft. Dickey Oil Co.'s Brothers 1, se se se 1-21s-7w, rig.

ROOKS COUNTY—L. C. D. Drlg. Co.'s Westhusin 1, cne se 11-19s-17w, testing 3243 ft. J. A. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, testing. Buckner & Schoff's McConnell 1, ne ne ne 34-6s-18w, sd 1756 ft. Empire's Ham 1, sw nw nw 24-8s-19w, dr 3000 ft. Jarvis & Strickland's Hamel 1, se se sw 7-8s-20w, td 3534 ft, D&A. Snowden & McSweeney's Hindman 1, ce½ nw 35-7s-17w, rust. Graham et al's Fike 1, sw sw sw 9-9s-17w, dr 2680 ft.

RUSSELL COUNTY—Empire's Frederick 1, se se se 18-15s-11w, dr 1240 ft. Equity Gas Co.'s Harbauk 1, nw ne sw 19-13s-12w, sd 470 ft. El Dorado Ref. Co.'s Scott 1, nw nw ne 17-13s-13w, co 835 ft.

SALINE COUNTY—James Brouk et al's Tehlander 1, ne nw se 10-16s-13w, dr 3400 ft.

SEDGWICK COUNTY—Lauck's McLean 1, csw se 1-27s-1w, td 4700 ft, D&A. R. J. Wallace et al's Sheer 1, sw sw sw 22-27s-3w, bailed, no oil. Cameron et al's Smith 1, sw se se 13-27s-2e, spd and sd.

SHERIDAN COUNTY—O. A. Roberts et al's Corrick 1, cnw 34-9s-26w, td 255 ft, woc.

STAFFORD COUNTY—Skelly's Kipp 1, se se ne 27-25s-14w, cementing to 4118 ft. C. E. Skiles et al's Leidigh 1, nw nw sw 21-22s-11w, sd 3505 ft. Empire's Jordan 1, sw sw nw 15-25s-14w, pump 64 bbls oil and 5 percent water. Skiles et al's Hughes 1, sw sw sw 12-23s-12w, rur 508 ft. Atlantic et al's Davis c-46 1, se se sw 32-23s-12w, td 3985 ft, D&A. Lebow et al's Wolf 1, se sw nw 3-21s-12w, dr 1852 ft.

SUMNER COUNTY—Rosespring Drlg. Co.'s Rutter 1-A, cnw nw 21-33s-2e, rust. Empire's Hoffman 1, nw nw sw 27-34s-1e, ur 8-in csg 3200 ft. Graham et al's Dawson 1, nw nw nw 4-33s-2w, fsg 3585 ft. Lario et al's Hall 1, nw sw nw 11-35s-1e ur 13-in csg 1442 ft. Lloyd, Frost, Study et al's Fee 1, se se se 31-34s-1e, dr 789 ft. Orcott & Stewart's Newton 1, se se se 21-30s-2e, dr 605 ft.

TREGO COUNTY—York State Oil Co.'s Gugler 1, sw sw sw 36-12s-21w, pump 11 bbls oil 24 hrs. Black Gold Co.'s Allman 1, csw sw 34-14s-21w, mim.

WOODSON COUNTY—Dwyer et al's Wolf 1, ne ne sw 9-24s-14e, sd 1340 ft. Ross & Marshall's Bresner 1, sw sw se 6-26s-15e, mim.

NORTH LOUISIANA

BIENVILLE PARISH—Lide-Greer et al's J. D. Smelley 1, se sw ne 13-16n-5w, 10 in csg 2660 ft, td 3030 ft. De Soto O&G Co.'s (R.O. Roy) Dunn & Olsen 1, n½ nw 15-16n-10w, elev 259 ft, massive anhydrite 3985-4217 ft, base stringer 4276-4301 ft, tested 5 mil ft gas in ds test 5200-5236 ft, oolitic lime (Petitt), cemtd 7 in csg 5200 ft, woc td 5236 ft. McDowell et al's Locke 1, ne nw ne 9-15n-9w, elev 180 ft, coring 1350 ft. Texas-Seaboard's McGee 1, 3-16n-6w, dr 6255 ft shale.

BOSSIER PARISH—Ark.-La. Gas Co.'s Davis 1, 8-17n-11w, dr 3238 ft. Potter 1, 8-17n-11w dr 2422 ft. United's Skannal G-1, c se ne 22-17n-12w, flowed 1,193 bbls 44 grav oil in 24 hour gauge through choke, td 5170 ft. Petitt sand. Freedman 1, 15-17n-12w, rur. La. Pet. Corp.'s Edwards Est. 1, 5-17n-11w, dk. Triangle Drl. Co.'s S. H. Bolinger 1, 36-23n-12d, rur. Skannal I-1, 22-17n-12w, rur.

CADDO PARISH—Ferguson et al's Huckabay 1, 22-22n-16w, dk. Gulf's E. P. Hatcher 1, 11-17n-15w, elev 269 ft, top Travis Peak 5998 ft, dr 7635 ft, red shale.

CLAIBORNE PARISH—E. T. Oakes' & H. D. Easton's Patton Est. 2, ne ne 1-20n-5w, elev 357 ft, 7 in csg 5007 ft, cored oolitic lime so & sg 5359-79 ft, ran electrical tester, cemtd 5 3/16 in csg 5305 ft, dr plug to test td 5379 ft. (Glen Rose). United's Rufus Sims 1, nw sw nw 22-20n-5w, rur. Max Hirsch et al's C. O. Ferguson 1, nw sw 29-22n-6w, spd 16 in csg 275 ft, dr 1833 ft shale.

CATAHOULA PARISH—Balconies Oil Co.'s (formerly C. P. Brown) T. J. Chisum 1, 19-10n-8e, rur. Matheny & Schumacher's W. S. Peck 1, 40-10n-8e, mim.

DE SOTO PARISH—Sundby et al's Garland 1, se nw 7-14n-14w, elev 300 ft, base Annona chalk 2095 ft, top Tokio 2592 ft, top Washita 2690 ft, dr 2876 ft. Julian-Igoe Synd.'s Hallie Smith 1, se se 31-14n-15w, lcn. Grogan et al's Ramsey 1, 36-11n-11w, arr deepen 1780 ft. Sanders et al's L. N. Allison 1, nec 17-14n-13w, mir. Pearl Oil Corp.'s Joyner 1, se nw sw 28-11n-12w, dr 1690 ft. Chamberlin et al's Lanier 1, 29-11n-11w, dk. Grady Vaughn et al's Sample 1, 24-11n-14w, spd woc 500 ft (5500 ft test).

NATCHITOCHES PARISH — Natchitoches Oil Co.'s J. S. Simpson 1, 12-7n-7w, sd 1350 ft. Lent et al's Locke 1, se sw 26-9n-9w, sd 30 ft. Robt. Keen's Moffitt 1, ne sw 19-10n-10w, rur.

RED RIVER PARISH—Hunter et al's Long-Bell Lbr. Co. 1, ne ne 19-13n-9w, sdtr, tested show oil and mud 3720-23 ft, arr run short string 5 3/16-in csg to 3270 ft, old td 3734 ft.

RICHLAND PARISH—Gulf's R. R. Rhymes 15, nw se ne 32-17n-6e, elev 87 ft, top anhydrite 2936 ft, base red beds 6380 ft, 7 in csg 8040 ft, dr 8320 ft shale.

SABINE PARISH—Earl F. Fox's L. B. Blankenship 1, 13-9n-12w, rur. Whitehurst et al's Whitney Corp. 1, c nw ne 8-9n-13w, make head gas, si again, old td 5503 ft. Luther Swift's Long-Bell Lbr. Co. 1, 11-8n-14w, dr 876 ft. A. C. Scott's Bowman-Hicks Lbr. Co. 1, nw sw 23-9n-13w, owdd, td 2020 ft.

WEBSTER PARISH—Ohio Oil Co.'s Bodcaw Lbr. Co. 1, c ne se 28-21n-10w, elev 234.8 ft, top anhydrite stringer 3969 ft, top massive anhydrite 4225 ft, base stringer 4546 ft, dr 7795 ft. R. M. Coyle 1, c ne se 22-21n-10w, elev 215.8 ft, massive anhydrite 4119-4359 ft, dr 7584 ft. United's Nixon 1, 22-21n-10w, elev 230 ft, top massive anhydrite 4195 ft, top Travis Peak 5585 ft, dr 7257 ft. C. V. Davis 2, c nw nw 23-21n-10w, dr 7271 ft. Magnolia's Cox 1, 23-21n-10w, 9⅝ in csg 6477 ft, dr 7408 ft. Woodley Pet. Co.'s L. C. Cox B-2 (formerly 1), sw ne 22-21n-10w, elev 229 ft, top massive anhydrite 4144 ft, flowing nine bbls distillate per hr, and making est 20 to 30 mil ft gas daily, td 5557 ft (Travis Peak). Seaboard Oil Corp.'s Cotton Valley L&T Co. 1, nw sw 35-22n-10w, elev 200 ft, massive anhydrite 4530-4735 ft, top red beds 3340 ft, top Travis Peak 5961 ft, dry aban td 6084 ft. Tidewater Oil Co.'s L. Pipes 1, 10-18n-10w, top Nacatosh 1535 ft, base chalk 2075 ft, top Blossom 2232 ft, top red beds 3167 ft, cemtd 9⅝ in csg 3627 ft, woc. Standard of La.'s Fudicker 1, se nw nw 2-17n-9w, elev 237 ft, top first anhydrite 4707 feet, dr 4825 ft shale. Red Hawk Oil Co.'s Baker 1, 9-22n-9w, dr 1600 ft.

WINN PARISH—C. W. Cline's Collingsworth Hrs 1, se se 14-10n-6w, dk & mir.

SOUTH LOUISIANA

ACADIA PARISH—Humble's Nordyke 1 Ebenezer prospect, 23-10s-1e, dr shale 2605 ft. Superior's Savoie 1, Bayou Mallet field, 47-7s-1e, dr shale 3524 ft.

CALCASIEU PARISH — Union Sulphur's Irwin 1, se of Lake Charles, 10-10n-8w, dr brittle shale 7637 ft.

CAMERON PARISH—Pure's Mallard Bay 1, Mallard Bay prospect, 22-13s-3w, dr shale 7588 ft.

EAST BATON ROUGE PARISH—Louisiana Crusaders Oil Co.'s L. S. U. 1, University Block, 67-7s-1w, reaming 6382 ft.

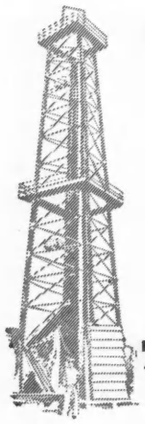
IBERIA PARISH — Texas Co.'s Fausse Point 2, Fausse Point prospect, 35-11s-8e, mixing mud 6482 ft; same operator's State Vermilion Bay 1, in Vermilion Bay, 16s-5e, dr shale 9668 ft.

JEFFERSON PARISH—Triangle Oil Co.'s Carroll 1, 125-12s-11e, sd 1903 ft.

JEFFERSON DAVIS PARISH — Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, washing 9749 ft.

LAFOURCHE PARISH — Wm. Helis' City of New Orleans 1, Marchland prospect, 19-23s-23e, dr shale 5571 ft. Pan American's Harange 1, Valentine prospect, 7-17s-20e, coring hard sand 6487 ft.

PLAQUEMINES PARISH — Gulf's State Bay Adams 1, in Bay Adams, 32-19s-28e, abn



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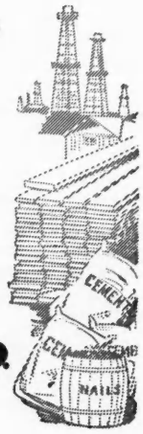

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2700 ft. Tide Water's Manhatten Fruit 2, Venice Dome, 26-21s-30e, running an electrical logging device to 4747 ft.

ST. BERNARD PARISH—Gulf's Lake Lery 1, Lake Lery prospect, 28-14s-14e, dr shale 2908 ft. Southern Sulphur Co.'s State 2, in Lake Borgne, 38-14s-15e, dr sandy shale 1369 ft.

ST. JAMES PARISH — Shell's Colonial Sugar 2, Hester prospect, 5-12s-5e, sd at 8422 ft. ft.

ST. LANDRY PARISH — Stanley Thompson's Lewis 1, ne of Port Barre, 29-5s-6e, abn 6000 ft. Superior's A. Savoie 1, ne of Bosco, 26-8s-3e, abn 9428 ft.

ST. MARTIN PARISH—Shell's Hefea Land Co. 1, Gecho or Arnaudville prospect, 38-8s-5e, dr sandy shale 7949 ft.

ST. MARY PARISH—Texas Co.'s Bayou Sale 1, Wax Lake prospect, 40-17s-9e, dr sandy shale 9138 ft.

TERREBONNE PARISH—Humble's Elender 1, Houma Gas field, 23-19s-19e, fsh 8757 ft. Shell's Realty Operators 1-B, 11 w of Houma, 18-18s-15e, woc 2529 ft.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, 20-12s-3e, dr shale 12,121 ft. Stanolind's Fred Stovall 1, South Abbeville prospect or Inter-coastal prospect, 89-14s-3e, dr shale 10,026 ft.

MICHIGAN

ARENAC COUNTY—Central Drilling Co.'s Fisk 1, 16-19n-4e, dr 2590 ft. Petroleum Exploration Co.'s State 1, 32-20n-5e, dr 470 ft. J. E. Flannigan's Whipple 1, nw nw ne, 18-20n-5e, mim.

CLARE COUNTY—McClanahan Oil Co.'s Robinson 1, 31-17n-4w, dr 3560 ft. Wittmer Oil Co.'s Musgrove 1, 15-24n-1w, dr 2200 ft. Sun Oil Co.'s Campbell 1, 12-19n-3w, dr 1540 ft.

CLINTON COUNTY—Petroleum Exploration Co.'s Schneeberger 1, 11-5n-2w, dr 2130 ft. Prima Oil Co.'s Fitzpatrick 1, 10-8n-4w, dr 800 ft.

GLADWIN COUNTY — J. V. Wicklund's State A-1, 11-18n-1w, dr 2500 ft. Rowmor Oil Co.'s State 1, nw nw ne, 36-18n-1w, rig. C. L. Maguire's Foster 1, 15-18n-1w, sd 1250 ft. McClanahan Oil Co.'s Every 1, 10-17n-1e, loc. Muskegon Development's Wineman 1, 33-18n-1e, sd 3520 ft.

GRATIOT COUNTY—Red Man Oil Co.'s Duckworth 1, 9-11n-3w, sd 2000 ft. Chas. Anderson's Askergrad 1, 9-9n-1w, sd 520 ft. Elba Gas Corp.'s Kisa 1, 19-9n-1w, dr 300 ft. Gulf Refining Co.'s Morrison 1, 7-11n-2w, dr 800 ft. Herbert Snell's Smead 1, 20-11n-4w, dr shale 3169 ft. John Pentowoski's Sharrar 1, 23-11n-4w, dr 2200 ft. Chas. Weller's Bolyard 1, 27-9n-3w, rust. Sam Siegel's Kerr 1, 36-10n-1w, dr 200 ft.

HILLSDALE COUNTY—Jacob Beck's Fee 1, 16-6s-3w, sd 3502 ft. Trenton top 3312 ft. H. H. Heinig's Daley 1, 10-7s-4w, dr 305 ft.

HURON COUNTY—C. W. Teater's Inda 1, 32-18n-13e, dr 340 ft. C. W. Teater's Keller 1, 27-16n-11e, dr 910 ft.

KENT COUNTY—J. H. Hansen's Garbow 1, 3-10n-9w, dr 1300 ft. Central Michigan's Fletcher 1, 25-7n-10w, dr 340 ft.

LENAWEE COUNTY — St. Louis Supply Co.'s Dibble 1, 16-5s-3e, sd 2720 ft. Socony Vacuum's Russell 1, 25-5s-5e, sd 2580 ft.

LIVINGSTON COUNTY—J. E. Flannigan's Curdy 1, 18-3n-5e, dr 1500 ft. E. J. Turner's Hass 1, 16-4n-3e, dr 600 ft.

MISSAUKEE COUNTY — M. J. Ingold's Donley 1, 31-22n-8w, sd 3280 ft. Rex Oil Co.'s Meekoff 1, 30-21n-6w, dr 309 ft.

MONTCALM COUNTY—L. T. Barber's Rice 1, 20-12n-7w, rust 3037 ft. R. E. Gallagher's Hayden 1, 25-11n-7w, dr 1100 ft. R. F. Ide's Mortenson 1, c nw sw, 11-11n-6w, loc. Daily Crude Oil Co.'s Weatherby 1, 20-12n-9w, fsg for swab, td 3324 ft, avg 29 bbls oil day thru casing and tubing after acid.

OTSEGO COUNTY—M. B. Keeler's Beall 1, 24-18n-9w, ds 1510 ft. Dibble Brother's Townsend 1, 4-20n-17w, dr 2000 ft.

OGEMAW COUNTY—Mammoth Producing and Refining Co.'s Prescott 1, sw nw sw 32-21n-4e, mim. Gordon Oil Co.'s Everitt 1, 13-23n-2e, dr 1890 ft.

SAGINAW COUNTY — Hubel Oil Co.'s Schwigner 1, 5-11n-6e, sd 3100 ft. Goll, Graves and Mechling's Mossner 1, 10-10n-6e, loc. Jenickie Oil Co.'s Moulton 1, 31-12n-2e, testing after acid 3234 ft. Monitor Oil Co.'s Turnwald 1, 32-9n-4e, Dundee lime 2643 ft, sd 2781 ft.

MISCELLANEOUS—Bay County: Hogan and Wright's Sobuary 1, 12-17n-4e, rig. Mackinac County: Van Kuren and Montigel's Hiawatha Club 1, 17-44n-9w, co 1501 ft td. Newaygo County: M. R. Schemahorn's Cain 1, 24-12n-11w, loc. Ottawa County: Muskegon Oil Co.'s Wolting 1, 35-6n-15w, dr 1000 ft. Otsego County: Harley William's Hanson 1, 15-30n-1w, sd 2206 ft. Roscommon County: North Mich.'s Hartwick 2, 31-24n-4w, sd 700 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, arr deepen 1680 ft.

CLAIBORNE COUNTY — Claiborne O&G Drl. Co.'s Crawford 1, 6-13n-4e, elev 115 ft, sd 2005 ft. Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn.

HINDS COUNTY—Chichester et al's Gerwin 1, sw nw 12-5n-4w, dr 1010 ft. State of Mississippi's Fee 2, nw nw 25-6n-1e, elev 326.5 ft, base Selma chalk 2802 ft, missed drill stem test in hd sand 2832-36 ft, sr for another test td 2836 ft, hd sand.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, nec 6-10n-14e, dk.

LAMAR COUNTY — Sun's Scanland & Semmes 1, c sw ne 28-4n-15w, elev 317 ft, 9⅝ in csg 1623 ft, reported to have topped anhydrite between 1700-1800 ft, coring 2108 ft.

PERRY COUNTY—Fred E. Courson's Newman Lbr. Co. 2, se sw sw 2-2n-10w, rur.

YALABOUSHA COUNTY—G. M. Langston et al's W. C. Bryant 1, ne sw 21-24n-6e, elev 276 ft, dk & rog.

NEW MEXICO

LEA COUNTY — Anderson-Prichard Prod. Corp.'s C. M. Carlson 2, c sw nw 21-25s-37e, elev 3072 ft, dr 1270 ft. Argo Royalty Co.'s B. T.Lanehart 1, sw se ne 21-25s-37e, elev 3071 ft, hfw 3772-82 ft, pb to 3572 ft to complete as gasser. Baldridge et al's Blakey 1, c nw ne 5-20s-38e, elev 3586 ft, base salt 2660 ft, rust, td 2815 ft. Brown & Reynolds' Parcell 1, c nw se 8-21s-38e, elev 3573 ft, base salt 2820 ft, est, 200,000 ft gas, fsh tools 3160 ft. Carlock et al's Quincy-Ricker 1, c se se 7-16s-36e, elev 3945 ft, top anhydrite 1975 ft, dr 3090 ft. Amon G. Carter et al's E. M. Elliott 1, c nw nw 22-22s-37e, elev 3374 ft, dr 2220 ft; Elliott 2, c ne nw 22-22s-37e, elev 3375 ft, rust. td 1175 ft. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, td 4074 ft, sdo. J. C. Clower et al's W. H. Turner 1, c se se 29-21s-37e, elev 3469 ft, dr by junk, td 3483 ft. Barney Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, td 3789 ft, sdo. Conoco & The California Co.'s Ira C. Forney 1-A-5 c sw se 5-23s-36e, elev 3457 ft, top anhydrite 1435 ft, dr 3690 ft; Rex Williams 1-A-27, c sw sw 27-23s-35e, elev 3428 ft, top anhydrite 1580 ft, dr 3890 ft. Culbertson, Erwin & Stovall's J. R. Stuart-Repollo 2, nw se se 10-25s-37e, elev 3108 ft, fsh 3277 ft; Stuart-Repollo 3, ne se sw 10-25s-37e, machine. Devonian Oil Co.'s A. L. Christmas 1, ne ne se 28-22s-37e, elev 3339 ft, sd 2650 ft. Empire O&R Co.'s R. L. Brunson 1, nw nw se 4-22s-37e, elev 3446 ft, top anhydrite 1140 ft, dr 1535 ft; Anna Walden 1, c se nw 21-22s-37e, elev 3352 ft, sd for storage with hfo, td 3581 ft. A. R. Eppenauer et al's F. B. Stuart-Amerada 1, ne ne ne 22-25s-37e, elev 3082 ft, top anhydrite 1000 ft, top salt 1200 ft, dr 1745 ft. J. E. Farrell & Co.'s E. W. Walden-Amerada 1-A, c sw nw 15-22s-37e, elev 3407 ft, dr 2850 ft; Walden-Amerada 1-C, c sw sw 15-22s-37e, elev 3396 ft, show o&g, dr 3410 ft. Geo. F. Getty Oil Co.'s D. C. Hardy 2, c sw se 20-21s-37e, dr 3176 ft; Etz-Conoco 1, c ne ne 12-21s-32e, fsh in red beds 1015 ft. Harry W. Leonard et al's B. T. Lanehart 3, c ne nw 21-25s-37e, elev 3081 ft, lcn. Magnolia's E. O. Carson 3, c sw sw 28-21s-37e, elev 3467 ft, dr lime 3575 ft; State 1-G, nw nw ne 24-17s-34e, elev 4019 ft, top anhydrite 1700 ft, dr anhydrite 3195 ft. Maljamar O&G Corp.'s Baish 7, c se nw 21-17s-32e, elev 4046 ft, dr 2350 ft. Joe C. Maxwell, R. Crandall & C. H. Osmond's State-Lane 1, c sw nw 32-10s-34e, elev 4205 ft, top anhydrite 2060 ft, base salt 2750 ft, dr 3630 ft. Plains Prod. Co. et al's Knight-Humble 3, c se se 21-24s-37e, elev 3218 ft, show o&g 3045-50 ft, dr 3160 ft; Knight-Humble 4, c sw sw 22-24s-37e, elev 3225 ft, mim. Repollo Oil Co.'s O. J. Boyd 2, nw nw nw 23-22s-37e, elev 3338 ft, dr 3530 ft; Robt. Jamison 2, sw sw nw 22-24s-37e, mim; A. M. York 1, se se ne 20-21s-37e, elev 3495 ft, dr 3650 ft. Rushwold Oil Co.-Conoco & California Co.'s E. E. Carter 1, c nw ne 30-20s-39e, elev 3559 ft, top anhydrite 1616 ft, dr 2540 ft. Samedan Oil Corp.'s S. B. Hughes 2, c nw se 4-23s-37e, elev 3318 ft, dr 2050 ft. Shell Pet. Corp.'s Black 1, c nw ne 21-24s-37e, elev 3227 ft, sandy-lime pay 3443-3501 ft, completed, flowed 85 bbls oil 2 hrs and 1,129,000 ft gas; State 1-T, c se ne 34-20s-35e, elev 3719 ft, dr 710 ft. Skelly Oil Co.'s J. V. Baker 3, c ne nw 27-22s-37e, elev 3341 ft, dr 1650 ft; Hugh C. Sims 1-D, c se nw 3-23s-37e, elev 3300 ft, dr 3400 ft; R. R. Sims 2, c ne sw 3-23s-37e, elev 3298 ft, sd 1196 ft; R. R. Sims 1-C, c se sw 3-23s-37e, elev 3297 ft, dr 2875 ft; W. P. Sims 1-B, c nw ne 10-23s-37e, elev 3296 ft, dr 3150 ft. W. H. Street et al's Wood-Humble 1, near c se ne 22-22s-37e, elev 3355 ft, pb fr 1174 ft to 615 ft, ur cas. Sun Oil Co.'s I. R. Stuart 2, c sw ne 15-25s-37e, lcn. The Texas Co.'s Jas. F. Black 1, c sw ne 21-24s-37e, elev 3225 ft, running 7-in cas 3360 ft; V. M. Henderson 1, se se ne 30-21s-37e, elev 3490 ft, dr 2700 ft. Tide Water

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ROOSEVELT COUNTY—Clovis Dev. Co.'s S. Smith 1, c se ne 17-2s-30e, fsh 825 ft. Franklin Oil Corp. et al's Rual Giphant 1, nw nw nw 28-3n-30e, elev 4458 ft, ur 3230 ft. Joe C. Maxwell, R. Crandall & C. H. Osmond's A. B. Williamson 1, c nw nw 7-8s-36e, dr 3415 ft.

OKLAHOMA

ATOKA COUNTY—A. J. Sanders' Redden 3, se sw sw 19-1n-15e, cementing cave.

BECKHAM COUNTY—Mid-American Oil Co.'s Biscoe 1, sw se ne 28-8n-22w, dr 1100 ft.

CARTER COUNTY—Head & Straus' Simpson-Fell 1, nw nw se 8-5s-1e, dr 1394 ft.

CLEVELAND COUNTY — Helmerich & Payne's Glenn 1, cnw ne 6-8n-1w, dr 5045 ft.

COAL COUNTY—Continental's Kirby 1, sw se sw 23-1n-8e, dr 1453 ft. Continental's Breedlove 1, nw sw sw 24-1n-8e, dr 5060 ft. Continental's King 1, ne sw ne 26-1n-8e, pulling pipe. Continental's Daniels 1, sw ne sw 27-1n-9e, dr 5571 ft. Carter's Warne 1, ne ne nw 31-2n-9e, dr 5452 ft. Shell Pet. Corp.'s Hill 4-A, cnw 30-3n-10e, dr 5640 ft.

COMANCHE COUNTY—L. D. Wise et al's Cones 1, se se sw 11-1n-10w, sd 2156 ft. Frank Scott's Kuntz 1-A, cse ne se 21-4n-11w, dr 1565 ft. C. V. Morris' Young 1, se ne se 24-3n-10w, dr 425 ft.

COTTON COUNTY — Phillips Pet. Co.'s Warren 1, ne ne se 1-5s-13w, sdo 3296 ft. Grace-Wood Drlg. Co.'s Wilson 1, csw nw 17-4s-11w, dr 3995 ft.

GARFIELD COUNTY—Ohio's. McFarland 1, se se se 25-24n-3w, cor 4944 ft.

GARVIN COUNTY—Ellison & Hammond's Selby 1, cnw nw 24-2n-3w, dr 5300 ft. Pure Oil Co.'s Baker 1, se se ne 7-2n-1e, fsg 5431 ft. Hayes Drlg. Co.'s Howell 1, cse nw 34-1n-1e, rig.

GRADY COUNTY—R. E. Johnson et al's Thomas 1, se sw se 18-5n-7w, mir.

GREER COUNTY—Nelf et al's Melton 1, cse nw se 16-3n-22w, to test. Bud Lewis et al's Webster 1, sw ne ne 7-7n-24w, dr 1255 ft.

HUGHES COUNTY — T. P. McAdams & Barnes' Koch 1, sw ne ne 1-9n-10e, td 3838 ft. R. K. Ellison's Peters 1, se nw se 8-6n-10e, testing 3590 ft. Mid West Oil Co.'s Turner-Lucas 1, cse nw 13-9n-9e, dr 1350 ft.

JACKSON COUNTY—Everett & Morgan's Dameron 1, cnw sw sw 34-3n-18w, dr 145 ft.

JEFFERSON COUNTY—Mid-Continent Pet. Corp.'s Reid 1, csw nw 32-6s-4w, td 1807 ft, D&A. Massas & Swansberger's Barrett 1, ne se se 14-6s-6w, sd 21 ft.

JOHNSTON COUNTY—Patten et al's McCrummens 1, sw sw ne 16-1s-6e, sd 580 ft.

KAY COUNTY—Max Kelly's Johns 1, nw nw nw 35-27n-4e, td 3160 ft, D&A. G. A. Brown et al's Harris 1-A, sw sw ne 14-25n-1e, br. Helmerich & Payne's Constant 1, sw sw ne 17-28n-2w, ru and tools.

KIOWA COUNTY—Argus Pet. Co.'s Osbourne 1, nw nw ne 9-7n-16w, sd 1225 ft. Lykins et al's Aetna Life Ins. Co. 1-A, se se se 9-5n-16w, sd 851 ft. Nagel & Adams' Oster 1, sw ne sw 27-7n-17w, sd 887 ft.

LeFLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, woc 2300 ft.

LOGAN COUNTY—Anthony & Marshall's Fruin-Eckman 1, se se sw 4-16n-1e, co 4955 ft. Helmerich & Payne's Hasler 1, nw nw se 14-16n-4w, dr 5772 ft. Harry Blackstock's Prince 1, se ne sw 11-17n-3w, dig cel.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, swabbing. Magnolia Pet. Co.'s Gardner 1, cne ne nw 34-6s-2e, dr 2145 ft.

MURRAY COUNTY—Power Oil Co.'s Lancaster Trust Co. 1, csw ne 10-1s-2e, td 3203 ft, most. Russell's Fee 1, se nw se 9-2s-3e, dr 165 ft.

NOBLE COUNTY—Shell et al's Moelling 1, csw nw 31-21n-2w, rust. Darby et al's Aetna Life Ins. Co. 1, se se nw 1-23n-2w, dr 1910 ft.

OKFUSKEE COUNTY—Okla Oil Corp.'s Dawley 1, nw nw se 8-10n-9e, td 1858 ft, woc.

OSAGE COUNTY — Chavalier & Simons' No. 1, se se se 24-23n-9e, sd 2309 ft. Norbla Oil Co.'s No. 1, ne ne se 13-23n-6e, mim.

PAWNEE COUNTY—Forest Dev. Co.'s Otter 1, cne nw 15-21n-5e, sd, to dd.

PITTSBURG COUNTY — Okla Dist Oil Co.'s Beeler 1, ne ne sw 7-7n-14e, dr 4371 ft.

PONTOTOC COUNTY—Ramsey Pet. Co.'s Johnson 1, nw sw se 9-3n-7e, dr 810 ft. Delaney & Boettcher O&G Co.'s Alexander 2, sw ne sw 24-4n-7e, td 3770 ft. E. H. Moore et al's Muse 1, sw ne se 33-2n-7e, C. & P. Franks Brothers' Abbott 1, sw nw ne 34-3n-6e, lcn abd.

SEMINOLE COUNTY — Riverland O&G Co.'s Goebelt 1-A, nw se se 12-6n-6e, pb 2306 ft.

STEPHENS COUNTY—Ed Parson's Olson 1, csw sw 21-2n-8w, dr 6257 ft. Coline Oil Co.'s Johnson 1, csw se nw 1-2n-8w, dr 5082 ft. Edwards' Frederick 1, ne se nw 31-2n-8w, dr 2140 ft. Jack Cohen's Pierce 1, cne nw 24-2s-6w, td 235 ft, sd.

TEXAS COUNTY — Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18ecm, dr 2398 ft.

TILLMAN COUNTY — Eugene Skinner's Oliver 1, se se nw 22-1s-15w, fsg 1314 ft. I. T. I. O. Co.'s Drumm 1, csw nw 32-2s-17w, td 3816 ft, pb 3808 ft.

EAST TEXAS

ANDERSON COUNTY—Tom F. Hunter, American Liberty Oil Co. et al's G. E. Cage 1, SEc of C. B. Gilbert sur, Blackfoot area, lcn for Trinity test. Tide Water Associated-Seaboard Oil Corp.'s Monnig Bros. 7 (3806.82-ac), S. Sanchez sur, No. 1-11, Long Lake field, rur for Trinity test.

BOWIE COUNTY—Ferguson & Hill's A. Y. Breckenridge 1, (412-ac) Nancy Dycas sur, 4 mi w Texarkana, sd 1003 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, sd 4404 ft.

CHEROKEE COUNTY—General Crude Oil Co.'s Mrs. S. L. Stockton 1 (103-ac), S. Jarboe sur, 3 mi ne Mount Selman, elev 475 ft, Pecan chalk 3330-3695 ft, top Austin chalk 4165-4371 ft, top Woodbine series 4375 ft, top Red Beds 4443 ft, td 4715 ft, pb to 4384 ft tested dry. Dr. H. Hancock, J. G. Mayo et al's Mrs. B. Pryor-Shell 1 (53-ac), J. T. Jones sur, Rusk area, elev 460 ft, Pecan chalk 4014-4390 ft, top Woodbine series 5182 ft, top sand 5190 ft, td 5203 ft, tested sw then dry and abd. A. F. Richardson et al's F. P. O'Brien 1 (167-ac), G. S. Clapp sur, 3 mi n by w of Rusk, lcn.

COLLIN COUNTY—E. A. Parkford et al (was California Consolidated Oil Co.'s), Mrs. W. L. Fagg 1 (38-ac), Jas. Rutherford sur No. 4, ne Blue Ridge, elev 626 ft, top Georgetown lime 1980-2651 ft, tested fresh water in Paluxy series at 2661-2771 ft, pb to 2685 ft to test upper sand, then to complete 3500-foot contract. Port Bolivar Co.'s O. C. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat No. 1193, 2½ mi ne Anna, elev 722 ft, td 4098 ft, tested trace oil with salt water, sdo; A. Shirley 1 (50-ac), Gwynn Morrison sur, 1 mi e Anna, sp and sd.

DELTA COUNTY—W. S. McGee et al's Mrs. P. W. Miller 1 (52-ac), E. Spencer sur, 1 mi sw Cooper, elev 465 ft, top Woodbine Red Beds 2650 ft, top Georgetown lime 3040 ft, sd 4220 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold league, 5 mi sw Kosse, elev 521 ft, top Edwards lime 3867 ft, top upper Glen Rose 4074 ft, sd 4114 ft.

FREESTONE COUNTY—C. A. Everts Drl. Co. et al's O. W. Killam 1 (840-ac), John Robbins sur, 6½ mi se Fairfield, Red Lake area, cem sur cas, drl plugs. Fred R. Lovering et al's E. Bonner-Scott 1 (23-ac), H. Awalt sur, 7 mi n Fairfield, Pecan chalk 2175-2286 ft, top Austin chalk 3117 ft, fsh 3860 ft. R. L. Wheelock, J. L. Collins et al's W. R. (Bill) Boyd Jr. 1 (410½-ac), F. P. Cabler sur, 3½ mi sw Fairfield, rur.

GRAYSON COUNTY—Olson Drl. Co.-Jas. H. Gardner & Broswood Oil Co.'s D. R. Utiger 1 (160-ac), P. P. Cady sur, 5 mi nw Denison, elev 722 ft, show o & g in Trinity 860-890 ft, base Trinity series 930 ft, top chert 950 ft, dr black lime 1770 ft.

HENDERSON COUNTY—Cosden Oil Corp's Mrs. E. P. Miller 1 (1550-ac), Thomas Chaffin sur, elev 451½ ft, top Pecan chalk 3232-3474 ft, Austin chalk 4440-4655 ft, top Woodbine series 4898 ft, dry and abd 5410 ft.

HOPKINS COUNTY—Empire O&R Co.'s J. E. Worsham 1 (149.36-ac), Alex O. Wetmore sur, Sulphur Bluff area, elev 430 ft, Pecan chalk 1511-1610 ft, td 4550 ft, testing via tubing. Walter L. Goldston & Frankel Bros.' H. J. Smith 3 (450-ac), Jas. A. Craft sur, lcn. D. S. Hager and W. P. Luse's J. G. Reynolds 1 (200-ac), A. O. Wetmore sur, elev 420 ft, top Woodbine red beds 3750 ft, top Georgetown lime 3850 ft, cut thru fault 3860 ft, Paluxy pay section 4473-4508 ft, testing. D. S. Hager, W. P. Luse & Russ Pet. Co.'s J. E. Worsham 6 (192.26-ac), A. O. Wetmore sur, dr 1500 ft; Jeff M. Worsham 1 (39.82-ac), A. O. Wetmore sur, dr 3300 ft. F. D. Jones Drilling Co. et al's Mrs. J. K. Pierce-Gulf 7 (225-ac), Jas. A. Craft sur, cem surface cas.

HOUSTON COUNTY—E. R. Mount, Branch et al's Dr. P. S. Griffiths 1 (136-ac), Frank Johnson sur, 3 mi sw Crockett, dr 710 ft.

HUNT COUNTY—Penn Oil Corp.-Elmer S. and Fox Wood's A. B. Manning 1 (57½-ac), Sally Owens sur, 5 mi ne Lone Oak, elev 599 ft, dk. Superior Oil Co. (Cal.), Moncrief & Showers, Inc. and W. L. Pickens' P. B. Paul 1 (183-ac), Mary Latham sur, 5 mi ne Quinlan, Stanolind O&G Co.'s L. B. Moore 1 (92-ac), R. Ragsdale sur, 2½ mi w Campbell, mim.

LAMAR COUNTY—H. Salmon, Lowery & Cutler's E. C. Porter 1 (30-ac), Thos. King sur, 3 mi ne of Chicota, top Georgetown lime 354 ft, dr 440 ft.

LEON COUNTY—H. M. Ogg et al's O. Wiley 1, E. Devinney sur, 1 mi w Buffalo, dk. Roth & Faurot O&G Co.'s J. L. Shaw 1 (254-ac), O. R. Reams sur, 5 mi n Centerville, top broken Pecan chalk 4065 ft, base chalk 4290 ft, top Gober chalk 4860 ft, Austin chalk 5150-5390 ft, tested dry on dst at 5941-5969 ft, dr 5970 ft.

LIMESTONE COUNTY—A. H. Grider et al's W. B. Kendrick-Pure 1 (10-ac), Pedro Varella sur, Mexia field, 6100-foot Trinity test, lcn abd. A. W. Phillips, J. Johnson et al's E. M. Speight 1 (136½-ac), M. Herrin and Pedro Varella sur, 4 mi ne Groesbeck, sp and sd.

RAINS COUNTY—Humble O&R Co.'s O.L. J. Easter 1 (39¾-ac), R. Hotchkiss sur, 4½ mi e of Emory, 7600 ft Trinity test, elev 438 ft, Pecan chalk 2177-2862 ft, Austin chalk 3260-3739 ft, top Woodbine series 4257 ft, top Washita 4970 ft, top Georgetown lime 5003 ft, top Paluxy 6079 ft, tested salt water, dr lime 6465 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 3 (392.37-ac), D. D. Bruton sur, 11 mi ne Clarksville, elev 403 ft, coring 2320 ft. Carpenter Oil Corp.'s R. E. Anderson 1 (100-ac), S. W. Sims sur, 3 mi no Clarksville, elev 459 ft, top Red Beds 1250 ft, dr 1840 ft. Roy I. Carter Drilling Co. et al's J. A. Tutt 1 (40-ac),

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Dennis Harty sur, 2 mi s Avery, sp and sd. M. Petroff et al's R. C. Morris 1 (176-ac), Joseph Guest sur, 2 mi w Detroit, sp and sd. Dale Sneed, R. H. Manning & Texfornia Co.'s Hooker-Hughes 1 (80-ac), MEP&P Ry. sur, No. 642, 6 mi sw Lydia, elev 307 ft, Pecan chalk 995-1302 ft, top Austin chalk 2018 ft, sd 2720 ft.

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1 (75-ac), Geo. A. Nixon sur, 3 mi sw Hearne, sd 2250 ft.

RUSK COUNTY—Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi e of Pirtle, elev 370 ft, Pecan chalk 2468-2793 ft, Austin chalk 3352-3512 ft, td 4725 ft, sdo.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 1¼ mi se Jamestown, sd 2794 ft.

TITUS COUNTY—J. V. McMahon, McIntyre et al's John B. Stevens 1 (777½-ac), J. Muechen sur, 8 mi sw Mount Pleasant, elev 349 ft, Pecan chalk 2290-2600 ft, showed water 3715 ft.

WOOD COUNTY—G. W. Nix et al's Mrs. E. A. Russell 1, John Delap sur, 4 mi w of Golden, sd 600 ft.

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—H. H. Roberts et al's Zion Douglas 1, L. S. Field sur, dr 980 ft. Weiss et al's W. L. Rudd 1, Wm. Steele sur, lcn.

MARION COUNTY — Tom Bell's Carrie Moseley 1, David Lane sur, 12½ in csg 72 ft, sd 500 ft. Ark. La. Gas Co.'s W. S. Ford 1, nwc 413-ac tract, Chas. O. Grayson sur, rur. Holcomb, Thomasson et al's (M. H. Overlees), Lizzie Henderson 1, R. Bennington sur, elev 221 ft, top chalk 1920 ft, top lower Cretaceous 3030 ft, top red beds 3748 ft, coring anhydrite 5280 ft.

PANOLA COUNTY—Glassell & Glassell's Frost Lbr. Co. 1, Mary S. Potts sur, elev 216 ft, using gas for nearby well, td 6002 ft; Williamson 1, H. Coleman sur, elev 213 ft, massive anhydrite 4635-4860 ft, oil odor 4984-5001 ft, coring oolitic lime, claim sg, 5666 ft. Lawler Pet. Co.'s C. T. Becknell 1, Bailey Anderson sur, massive anhydrite 4607-5065 ft, sd 6000 ft, may deepen to Travis Peak. Logansport P. L. Co.'s Rushing 1, Mannan Smith sur, 7-in csg 2477 ft, re-acidized, td 2734 ft. Magnolia Pet. Co.'s E. A. Hull 1, Thos. Applewhite sur, elev 232 ft, top Georgetown 2395 ft, top massive anhydrite 4659 ft, cemtd 7-in csg 5828 ft, woc, td 5960 ft. Motex Oil Co.'s J. M. Furrh 1, Thos. M. Alstone sur, elev 377 ft, top chalk 1575 ft, massive anhydrite 4660-4905 ft, base anhydrite stringer 4971 ft, claim so&g, arr set csg, td 5047 ft. Bird Oil Corp.'s (Lacey et al) L. Werner Lbr. Co. 1, Jno. Parmer sur, lcn. Yandell Rogers' Cameron Lbr. Co. 1, Wm. Lagrone sur, lcn.

SHELBY COUNTY—Rubeling & Potter's O. H. Polley 1, Wm. Whisner sur, arr deepen, td 4200 ft. Red Wing Oil Co.'s C. H. Herton 1, J. Dowlin sur, fsg 1888 ft. Mulroy & Curtin's D. F. T. Yordt sur, elev 312 ft, dr 3935 ft shale. Pure Oil Co.'s J. L. Smitherman 1, S. O. Pennington sur, mim. H. A. Stebbinger et al's Pickering Lbr. Co. 1, C. E. Henry sur, si, td 5029 ft, oolitic lime; Pickering Lbr. Co. 2, A. Hanson sur, lcn.

WEST TEXAS

ANDREWS COUNTY—Geo. F. Getty, Inc.'s R. H. Lindley-Conco 1, c sw sw sec 8, blk A-46, PSL sur, dr 1713 ft; G. E. Moxley 1, c ne ne sec 15, blk A-45, PSL sur, dr 540 ft. Grisham-Hunter Corp.'s Ratliff-Bedford 1, c nw¼ sec 24, blk 73, PSL sur, elev 3254 ft, top anhydrite 1554 ft, top salt 1585 ft, dr 4380 ft. Wm. F. Hanagan, B. H. Blakeney et al's C. W. Logsdon-Amerada 1, c sw¼ sec 5, blk A-32, PSL sur, elev 3347 ft, top anhydrite 1650 ft, top salt 1715 ft, dr 3075 ft. J. D. Bodkins, R. M. Barron et al's Kemp 1, SWc sec 17, blk A-43, PSL sur, mim. Sinclair Prairie's Emma Cowden 1, SEc se¼ sec 12, blk 44, T&P Ry. sur. T-2-N, elev 3135 ft, top anhydrite 1600 ft, top salt 1660 ft, dr 3850 ft. Sun Oil Co.'s J. S. Means 1-B, c se nw sec 22, blk A-35, PSL sur, elev 3162 ft, top anhydrite 1965 ft, top salt series 2085 ft, top lime 4190 ft, lime pay 4485-4535 ft, flowed 728 bbls. initial after 330-quart shot 4448-4535 ft. J. W. Tripplehorn et al's Jessie Brown 1, SEc sec 7, blk A-46, PSL sur, elev 3205 ft, top anhydrite 1670 ft, top salt 1695 ft, top Yates sand 2972 ft, pb fr hfw 4440 ft to 4305 ft for shot.

BREWSTER COUNTY—Floyd C. Dodson et al's Texas American Synd. 1-A, c ne ne sec 66, blk 10, GH&SA Ry. sur, elev 4228 ft, top Deleware shale 2297 ft, fsh 3690 ft. Tony Hess et al's Mrs. M. Decie 1, sec 7, blk 1, Georgetown RR Co. sur, ur 485 ft.

COCHRAN COUNTY—Honolulu Oil Corp.-Cascade Pet. Co.'s Duggan Bros. 1, c labor 13, league 55, Oldham County School Lands, elev 3693 ft, top anhydrite 2210 ft, top salt 2405 ft, top Yates sand 2910 ft, top lime pay 5025 ft, sul w 5080-5098 ft, pb to 5068 ft, shot 160 qts nitro 5019-5060 ft, flowed 168 bbls. 27.7 gravity oil via tubing complete.

CRANE COUNTY—American Liberty Oil Co.-Truett Cranfill's J. B. Tubb-Humble 3, NWc s½ sec 11, blk B-27, PSL sur, dr 3300 ft. Big Basin Pet. Co.'s Jax Cowden 1, NEc nw ne sec 77, blk X, elev 2456 ft, top salt 548 ft, sul w 3465-3473 ft, dry and abd. Clark, Cooper & Smith's A. P. Jordan 1, c ne ne sec 12, blk B-22, PSL sur, dr 925 ft. Gulf Oil Corp.'s M. B. McKnight 2, c ne¼ sec 9, blk B-21, PSL sur, top anhydrite 416 ft, top salt 585 ft, Ordovician lime test, running 7-in cas, td 3702 ft; W. N. Waddell et al 2, c ne sw sec 18, blk B-21, PSL sur, elev 2620 ft, top sand 1620 ft, top Simpson lime series 5995 ft, top Ellenberger lime 6507 ft, tested sul w at 6590-6709 ft, pb to 6186 ft, shot 80 qts nitro 6145-80 ft, testing; W. N. Waddell et al 3, SWc sec 21, blk B-21, PSL sur, mim. Gulf&T.B. Cranfill's J. B. Tubb 3, SEc sec 9, blk B-27, PSL sur, elev 2533 ft, top salt 540 ft, top lime 2460 ft, dr 3950 ft. Humble's J. B. Tubb 5, nw nw sec 11, blk B-27, PSL sur, lime pay 4375-4420 ft, cem cas 4250 ft; Tubb 6, dk. Loffland Bros. et al's J. B. Tubb-Gulf 2, SEc n½ sec 9, blk B-27, PSL sur, elev 2551 ft, td 4650 ft, shot 180 qts nitro 4250 ft est. 9,000,000 ft gas & 50 bbls oil daily. John I. Moore et al's T. C. Barnsley 1, c sw¼ sec 43, blk 32, PSL sur, elev 2472 ft, top anhydrite 500 ft, top salt 680 ft, top brown lime 2505 ft, top sulphur water in big lime 4555 ft, base Permian lime 5715 ft, dr lime 6320 ft. Sawyer drl. Co.'s M. B. McKnight 1, sec 11, blk B-17, PSL sur, elev 2773 ft, top gyp 511 ft, top anhydrite 675 ft, top salt 800 ft, dry and abd 1005 ft.

CROCKETT COUNTY—John I. Moore et al's A. C. Hoover 1, SEc sec 4, blk "FF". B&B Ry sur, elev 2605 ft, est 4 bbls, oil daily broken lime 2220-2420 ft, td 2523 ft; Baer-TP Coal & Oil Co. 1, sec 51, blk 1, ING&N Ry. sur, lcn. Anderson Oil Co.'s Todd-Southland Royalty Co. 1, SEc sw¼ sec 27, blk WX, GC&SF Ry. sur, pb fr sul w at 1644 ft, to 1619 ft, sdo. Superior Oil Co. (Cal.) et al's Robt. Massie 1, c ne¼ sec 55, blk U-V, KC&SF Ry. sur lcn for 7500 ft test.

JEFF DAVIS COUNTY—H. D. Wilcox et al's Jones-Coffield 1, nec sec 121, blk 4, H&TC Ry. sur, dr 505 ft.

DAWSON COUNTY—Ray Albaugh et al's John Robinson 1, c nw¼ sec 46, blk M, EL & RR sur, elev 3085 ft, top salt 1970 ft, top lime 4567 ft, top 1st lime pay 4958 ft, td 5038 ft, pumping 32 bbls oil 4 hrs, water about exhausted.

ECTOR COUNTY — American Maracaibo Co.'s C. Scharbauer 1, SWc sec 19, blk 44, T&P Ry sur, T-1-N,, dr 3800 ft. Devonian Oil Co.'s C. Scharbauer 1, SWc se¼ sec 34, blk 44, T&P Ry. sur, T-1-N, elev 3147 ft, top lime 3900 ft, dr 4200 ft. Empire O&R Co.'s H. E. Cummins 1-D, NWc sw¼ sec 23, blk 45, T&P Ry sur, T-1-N, dr 3025 ft. Pat Hannaman et al's Roberts 1, c ne¼ sec 22, blk A, PSL sur, lcn. Humble's W. F. Cowden 1, c nw sw sec 30, blk 44, T-1-N, elev 3195 ft, lime pay 4257-4278 ft, shot 300 qts nitro 4185-4275 ft, flows 6 bbls oil per hour. Schermerhorn Oil Corp.'s J. L. Johnson-Amerada 1, SEc sec 11, blk 43, T-2-S, elev 2977 ft, top anhydrite 1740 ft, base salt 2765 ft, lime pay 4060-4171 ft, shot 460 qts nitro 4047-4120 ft, flowed 528 bbls, initial; Johnson-Amerada 2, NEc se¼ sec 11, sp. Shasta Oil Co. et al's C. Scharbauer 1, SWc nw, sec 29, blk 44, T-1-N, elev 3170 ft, top anhydrite 1460 ft, oil pay 4132-4147 ft, rust. Sinclair Prairie's J. L. Johnson 2-A, SWc sw¼ sec 48, blk 43, T&P Ry sur, T-1-S, mim. Stanolind's E. F. Cowden 2-B, c ne ne sec 10, blk 43, T-2-S, elev 2967 ft, pb from sul w at 4451 ft to 4300 ft, shot and co junk. R. L. York-O. C. Harper et al's H. C. Foster 1, SEc ne¼ sec 13, blk 43, T-2-S, fsh 4119 ft; Foster 2, swedging collapsed cas after shot, td 4220 ft; J. D. Slater 1, c nw nw sec 26, blk 45, T&P Ry. sur, T-1-S, elev 3249 ft, top anhydrite 1580 ft, top Yates 2900 ft, dry and abd 4758 ft. York & Harper, Inc.-Sloan-Zook Co.'s H. C. Foster 1, SWc sw¼ sec 8, blk 42, T&P Ry sur T-2-S, elev 2945 ft, top anhydrite 1695 ft, top salt 1705 ft,

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STAR DRILLING MACHINES

dr 3300 ft. Weekley Oil Corp.'s E. F. Foster 1, NWc sec 13, blk 43, T-2-S, elev 2958 ft top lime 3875 ft, lime pay 4040-4231 ft, flowed 673 bbls, initial after 460 qt nitro shot 4048-4228 ft. TP Coal & Oil Co.'s C. Scharbauer 1, NEc sec 31, blk 44, T&P Ry sur, T-1-N, ur 4165 ft.

EL PASO COUNTY—Tri-State Oil Co.'s Chas. & L. M. Kinkel 1, NEc sec 237, S. F. No. 7232, ur 2501 ft.

FISHER COUNTY—L. A. Daniel, Tr. and J. B. Rhoads' Mrs. J. R. Nickless 1-A, NEc of 81-ac lse, G. W. Lawrence sur, ur 1800 ft. L. A. Long et al's J. L. Mayberry 1, c nw sw sec 56, blk 1, HT&B Ry sur, pb fr 3221 ft to shoot. Forrest Development Co.'s A. M. Dry 1, near c sw se sec 108, blk 2, H&TC Ry sur, elev 2087 ft, dry and abd 4537 ft. Southern Oil Corp.'s Joe Robinson 1, near c nw¼ sec 172, blk 2, H&TC Ry sur, rust.

GAINES COUNTY—Amerada Pet. Corp. et al's S. J. Averitt-Ohio 1-A, c ne ne sec 228, blk G, W. T. Ry sur, elev 3318 ft, top anhydrite 1959 ft, top salt series 2024-2890, top Yates sand 3060 ft, top lime 4545 ft, lime pay 4996-5029 ft, used acid flowed 188 bbls 24 hrs 1 in choke, dd to sul w at 5045 ft, pb to 5029 ft; C. E. Robbins 1, c nw nw sec 9, blk A-22, PSL sur, elev 3255 ft, top anhydrite 1914 ft, dr 3720 ft. Stanolind's J. A. Morrow 1, near center sw¼ sec 20, blk A-24, PSL sur, elev 3323 ft, top anhydrite 1755 ft, top salt 1850 ft, base salt 2710 ft, top Yates sand 2840 ft, dr 4040 ft.

GARZA COUNTY—Gar-Tex O&G Co.'s Post 3, ne¼ sec 6, blk 5, K. Aycock sur, dr 870 ft. Grisham-Hunter Corp.'s Post 1, sec 6, blk 5, K. Aycock sur, fsh col cas 2410 ft.

GLASSCOCK COUNTY—Fleetborn Oil Corp et al's Black Arrow Oil Co. 1, NEc 160-ac lse, sec 13, blk 34, T&P Ry. sur, T-3-S, dr 880 ft; A. A. Coulson 1, SWc 160-ac lse, sec 19, blk 33, T-3-S, top anhydrite 1573 ft, dr 1650 ft. Shell Pet. Corp.'s L. S. McDowell 1, s½ sec 41, blk 34, T&P Ry. sur, T-2-S, lcn. John I. Moore et al's L. S. McDowell 1, NEc nw ne sec 31, blk 34, T-2-S, T&P Ry. sur, dr 1610 ft. John I. Moore, Loffland Bros. et al's L. S. McDowell 2, lse 2, NWc se ne sec 21, blk 34, T&P Ry. sur, T-2-S, lcn.

TOM GREEN COUNTY—Spinner Oil Co.'s A. & B. W. Reed 1, SWc 137-ac lse, sub-div 39, Collyns Ranch, or Mayson & Perry sur, ur 3090 ft. Ray & F. E. Webb et al's J. F. Schriever 1, NWc 236-ac lse, A. Krending sur 1663, sd 664 ft. E. P. Campbell et al's D. B. Horns 1, Washington RR Co. sur 137, sp & sd.

HOCKLEY COUNTY—The Texas Co. et al's Bob Slaughter 1, labor 83, league 38, Zavala County School Lands, elev 3560 ft, top anhydrite 2240 ft, top Yates sand 2850 ft, crooked hole, sr 3750 ft.

HOWARD COUNTY—G. H. Johnson et al's Hyman-Magnolia 1, SEc sw se sec 88, blk 29, W&NW Sur, pumped 25 bbls initial after 40 qt shot 1308-26 ft, td 1328 ft, elev 2377 ft. John I. Moore et al's TP Land Trust 1, NEc sec 33, blk 30, T-1-S, T&P sur, mim.

HUDSPETH COUNTY—Costello Oil Corp's L. S. Costello 1, SWc sw¼ sec 36, blk 70, T&P Ry. sur, 1879, elev 4075 ft, lcn. Hayman Krupp Oil & Land Co.'s S. I. Thaxton 1, near sec ne se sec 34, blk 74, T&P Ry. sur, Tsp. 6, fsh 2178 ft.

JONES COUNTY—Humble O & R Co.'s J. M. Alexandetr 1, sw part 1127-ac lse, W. C. Walker sur, dry and abd 2220 ft. Chas. Gyr and S. L. Davis' L. E. Clyburn 1, NEc 80-ac lse, sub-div 27, H. Millard sur, dr 1310 ft. Chas. J. Kleiner et al's Birt Fields 1, S. Andrews sur 191, dry and abd 2219 ft. N H. Martin & Son's Spurrier 2 (160-ac), W. C. Walker sur, 3 mi n Nugent, dry and abd 2135 ft. Merry Bros. & Perini, Inc.'s J. H. White 2, NWc 40-ac lse, sec 6, blk 15, T&P Ry. sur, dr 1710 ft. Ungren-Frazier et al's W. Davis-L. A. Stemmons 1, NEc 161-ac lse, sec 3, blk 7, F. M. Smythe sur, dr 1690 ft.

LYNN COUNTY—C. M. Barnes et al (was E. T. Hart-Wanete Oil Co.'s) O. C. Edwards 1, near NWc se¼ sec 29, L. & S. V. sur, blk 1, to dd fr 5005 ft.

LOVING COUNTY—Mason Oil Co.'s Minnie Kyle 2, SWc ne¼ sec 20, blk 55, T&P Ry. sur, Tsp. 1, dr 2110 ft. Porter Rankin et al's W. D. Johnson 1, nw¼ sec 12, blk 57, T&P Ry. sur, Tsp. 1, elev 2904 ft, top Deleware lime 3119 ft, top sand 3151 ft. td 3214 ft, sdo.

NOLAN COUNTY—Robinson Drl. Co.'s Ed Gabler 1, NWc ne¼ sec 26, blk X, T&P Ry. sur, dr 1335 ft.

PECOS COUNTY—Bahan & Rhodes' H. E. Bonebrake 1, sw nw ne sec 111, blk 8, H&GN Ry. sur, elev 2504 ft, top salt 922 ft, top lime 1820 ft, dry and abd in sul w 2223-2230 ft; H. E. Bonebrake 1-B, w¼ sec 116, blk 8 H&GN Ry. sur, rust 2260 ft. R. O. Clark et al's Mrs. E. C. Powell 1, west cor sec 96, blk 10, H&GN Ry. sur, elev 2394 ft, dry and abd 1846 ft. Culbertson, Irwin et al's Iowa Realty Trust 1, sec 73, blk 10, H&GN Ry. sur, elev 2441 ft, show oil 1620-1743 ft, co after shot. A. H. Flaherty & Son's J. C. Cunningham-Sun 1, NWc sw¼ sec 25, blk 11, H&GN Ry. sur, sd 100 ft. Hightower O&R Corp.'s J. M. Holmes 1, sec 6, blk C-31, E. L. & RR Co. sur, dr 1410 ft. Marion Production Co.'s W. Courtney 5, NWc sec 78, blk OW, T. M. Ry. sur, sd 1378 ft; SW Life Insurance Co. 1, SWc sec 73, blk OW, T. M. Ry. sur, sd 1425 ft. E. R. Minshall et al's J. B. Baker 1, near c sw nw sec 25, blk 146, T&St. L. Ry. sur, sd 2815 ft. Stafford & McKague's J. L. Nutt 1, sp. Stanley A. Thompson et al's Elsinore Cattle Co. 1, se¼ sec 53, blk D, GC&SF Ry. sur, elev 3938 ft, ur 3940 ft. Tex-Mex Pet. Corp's McKee 1, NWc tr 7, sec 24, blk 9, H&GN Ry. sur, elev 2384 ft, fsh 2700 ft. Trans-Texas Oil Co.'s C. M. Caldwell 2, near SEc sec 27, blk 50, T&P Ry. sur, Tsp 9, sd 1142 ft; F. M. Gallaher 1, NEc nw sec 9, blk 51, T&P Ry. sur, Tsp. 10, sd 1260 ft; Popham Land & Cattle Co. 1, se¼ sec 235, blk 11, GH&SA Ry. sur, fsh 1700 ft; C. E. Wheeler et al's W. D. Riser 1, NEc 400-ac lse, sec 24, blk 12, H&GN Ry. sur, sp and sd. Young Pet. Corp.'s Perry 1, NWc ne¼ sec 28, blk 178, T. C. Ry. sur, lcn; Bailey 1, NWc ne¼ sec 23, blk 178, T. C. Ry. sur, sd 1260 ft.

REAGAN COUNTY—Bahan & Rhodes' TP Land Trust 1, c se¼ sec 37, blk 37, T&P Ry. sur, T-5-S, sp and sd.

RUNNELS COUNTY—Superior O&G Co. et al's Cook Heirs 1, SWc 800-ac lse, M. P. King sur 436, dr 1860 ft.

PRESIDIO COUNTY—Linderman Bros. Oil Corp.'s R. I. Bledsoe 1, SWc ne¼ sec 15, blk 351, GC&SF Ry. sur, sd 3019 ft. A. H. Main et al's Gleenlee 1, near c sw¼ sec 40, blk 347, GC&SF sur, lcn.

SCHLEICHER COUNTY—John M. Cooper et al's Bert Page 2, c ne se sec 40, blk I, GH&SA Ry. sur, lcn. Mangus Oil Corp.'s Judkins-Spencer (Pure) 1, c sw¼ sec 4, GC&SF Ry sur, blk V-28, or Hooper-Wade sur, blk A, elev 2209 ft, top Ellenberger lime 5902 ft, pb fr sul w at 6527 ft to 5912 ft, used 2000 gals acid, showed little oil with water.

SCURRY COUNTY—C. W. Guthrie et al's T. E. Sorrels 1, SEc sec 101, blk 97, H&TC Ry. sur, td 1777 ft, sd for acid.

SUTTON COUNTY—M. D. Bryant & J. L. Murray's B. B. Dunbar 1, lcn.

TAYLOR COUNTY—H. Grissman et al's City of Abilene 1, se¼ sec 66, B.A.L. sur, sd 3360 ft. Laurel Dunn & Herman McAlister's M. Bowles 1, SEc sw¼ sec 28, B.A.L. sur, elev 1773 ft, sd 1226 ft. Trans-Continental Oil Co.'s Bowles 1, NWc 80-ac lse, sec 26, B.A.L. sur, lcn. Chas. H. Hughes O&G Co.'s J. P. Anderson 1, sec 8, L.A.L. sur, lcn.

TERRELL COUNTY—Ohio Oil Co.'s M. H. Goode 1, SWc se¼ sec 26, blk 161, GC&SF Ry. sur, elev 2405 ft, tested 6, 250,000 ft sweet gas in Pennsylvanian lime 5606-12 ft in Feb. 1931, dr 7270 ft. J. T. Stockwell et al (was W. A. Sudderth-H. H. Sides & J. H. Phelps') Bates-Phelps 1, near SEc nw¼ sec 5, blk A-4, G. W. Turley sur, elev 2185 ft, co to dd fr 5635 ft.

TERRY COUNTY—W. L. Pickens, T. Lomax & Maracaibo Oil Explo. Corp.'s J. B. Lewright 1, c ne ne sec 1, blk C-37, PSL sur, sp and sd, rur. Uscan Oil Co.-Illinois Oil Co.'s A. R. Brownfield 1, near c ne¼ sec 54, blk K, PSL sur, elev 3413 ft, dr lime 5350 ft.

UPTON COUNTY—Moore Bros. et al's D. C. Giddings-Ohio 1, sub-div 25, league 4, Throckmorton County School Lands, sr 2596 ft. R. H. Henderson et al's A. Reese, Tr. 1, NWc e½ nw¼ sec 16, blk 3½, CCSDRGNG sur, dr 2110 ft.

WARD COUNTY—Prince Bros. et al's C. L. Monroe-California Co. 1, SWc e¼ sec 52, blk 34, H&TC Ry. sur, prob junked, td 2856 ft. A. W. Cherry, D. J. Finley et al's John Sealy Est 1, NEc ne¼ sec 54, blk F, G &M.M.B&A. sur, elev 2713 ft, testing lime 3200 ft. C. H. Mahres et al's P. Wilson 1, sec 133, blk 34, H&TC Ry. sur, sd 3220 ft.

WINKLER COUNTY—Harry Adams, C. T. A. Bradley et al's W. P. Edwards-Shell 1, NEc se¼ sec 6, blk C-23, PSL sur, sp. Emperor Oil Co.'s I. T. Cross 1, NEc nw nw sec 4, blk B-10, PSL sur, elev 2856 ft. dry and abd 1210 ft. K. D. Oil Co.'s Pink Mitchell 1, NWc s½ ne¼ sec 23, blk B-10, PSL sur, elev 2814 ft, ton anhydrite 1010 ft, top salt 1070 ft, base salt 2432 ft, top lime 2514 ft, top Yates sand 2600 ft, sd in lime 3662 ft. Reed & Duffy's John Sealy 1, c ne nw sec 8, blk A, GMMB&A sur, elev 2896 ft, top anhydrite 1010 ft, top salt 1080 ft, top Yates sand 2715 ft, dr 4140 ft. Sun Oil Co.'s W. P. Edwards 1, SEc n½ sw¼ sec 6, blk C-23, PSL sur, elev 2935 ft, rur

YOAKUM COUNTY—Texas Pacific Coal & Oil Co.'s Mrs. Ruth Bennett 1, c ne nw sec 678, blk D, John H. Gibson sur, elev 3559 ft, top anhydrite 2393 ft, top salt series 2514 ft, top Yates 3180 ft, dr lime 4620 ft.

SOUTH TEXAS

ATASCOSA COUNTY—Frontier Oil Co.'s D. & A. Oppenheimer 1, 193.4-ac tr, J. Sharp sur No. 518, 6 mi s Lytle, sd 200 ft. Helvetia Oil Co.'s Susie Pratt 2, 176-ac tr, F. de la Garza sur, Anchorage prospect, ½ mi se Pratt 1, td 3428 ft, top serpentine 3085 ft, soft broken serpentine 3224-66 ft, top Austin chalk 3428 ft, pb 3250 ft, perf liner 3150-3208 ft, swabbed 10 bbls oil from serpentine, hole filled 90 ft with oil in 12 hrs, will shoot serpentine. L. G. Priest, Tr.'s John Sanders 1, 117.61-ac tr, J. P. Garman sur No. 1189, sd 1160 ft.

BANDERA COUNTY—A. T. Crane et al's R. B. Watson 1 A. C, Curver sur No. 71, 2 mi n Medina City, old well, abnd Nov. 12, 1935, td 2035 ft, black shale, fishing out drill pipe.

BASTROP COUNTY—Joe E. Mills' Chas. W. Eskew 1, Samuel Wolfenberger sur 18, Hilbig area, top Austin chalk 2865 ft, drop from report, td 2904 ft. Lee F. Ross et al's J. O. Caldwell 1, 1500-ac tr, J. A. Navarro sur, 10 mi w Bastrop, td 2545 ft, abnd, pb to 2540 ft, treated with 1000 gals acid, tested water and small amount oil, 600 ft water in hole.

BEE COUNTY—Benson & Jones' Geo. A. Ray 1, 40-ac tr, Anna Burk sur, 3 mie e Beeville, old well, td 4500 ft, dr 4700 ft in sdtr hole.

BEXAR COUNTY—Algra Oil Co.'s Edward C. Peters 1, Miguel Gotari sur 5, sec 4, 13 mi se San Antonio, still sd 670 ft. American Gas Co.'s Oliver 5, 400-ac tr, M. F. Rodriguez sur, Gas Ridge, dr 3360 ft in dolomite limestone. Albert Chmel's Theresa McIntosh 1, 274-ac tr, J. W. Garrity sur No. 19, ¾ mi sw Kirby, dr 480 ft. H. V. Hange and G. E. Donnell Willie Mahula 1, 504-ac tr, Jose Maria Bustillo sur No. 29, 5 mi nw Adkins, dr 270 ft in sh. J. O. Williams' C. Hoch Est. 1, 157-ac tr, J. M. Baerrera, sur No. 58, 1¼ mi n Von Ormy Pool, td 391 ft, landed 6⅝ in cas on btm to re-dr. Woodward, Hardie & Herrold's Herman Sons 1, 2019-ac tr, Henry Pace League sur 37, tr 9, Swearingen, Cassin & Tayloe subd, 28 mi s San Antonio, dr 1310 ft.

BROOKS COUNTY—The California Co.'s Mestena O&G Co. 1, Alta Mesa area, B. Garcia tr 5, La Mestena de Gonzalina gr, dst 2946-65 ft, rec 490 lbs pres, no fluid, 10 min, td 3032 ft, sand 3025-32 ft, show oil and gas, set cas, wocs; B. Garcia 3-2, tr No. 3, La Mestena de Gonzalina gr, Alta Mesa area, blew out while coring 2448 ft, controlled, still conditioning mud to resume operations. Douglas & Burden, Inc.'s M. A. Faller 1, C. M. Laughlin sur No. 434, Alta Verde, 1½ mi se prod, stdg 900 ft.

BURLESON COUNTY—M. R. Exploration Co., Inc's J. M. Fountain 3, 936-ac tr, blk A-47 of W. Raleigh sur, 700 ft e No. 2, 12 mi ne Caldwell, not yet ru. Red Bank Oil Co.'s Nellie Gramm 1, Elisa Santef sur, abt 2500 ft nw Co.'s Gramm 1, 7 mi w Creisman, 7⅝ in cas 3900 ft, td 6241 ft, dst in top Edwards 6226-41 ft, 13 min, rec 180 ft oily mud, no sul water, no pres, ¼ top ch, ¼ btm ch, set cas, woc.

CALDWELL COUNTY — Brown Drilling Co.'s W. J. Pope 2, Salt Flats area, 134-ac tr, John D. Rains sur, 8 mi se Lockhart, 500 ft e Pope 1, lcn; G. M. Blackwell 1, 409-ac tr, John Roe sur, 1500 ft w Grayburg's Blackwell 1, 7 mi sw Lockhart, coring 2112 ft. J. G. McKenzie's J. M. Pierce 1, S. Seal league, s of Luling, Dunlap area, drop from report. R. George Young, Trustee's Lena Schmidt 1, W. C. Williams ½ league, 3 mi w Lockhart, sd 70 ft.

DUVAL COUNTY—Argo Oil Co. & John Clopton's Smith-Corkill Est. 1, center e ¼ sur 61 (N. Munez sur), 447-ac lse, 2 mi s Hoffman field, set sur cas. Atlantic Ref. Co.'s J. F. Welder heirs 1-H, 131-ac tr, sec 103, Loma Vista area, cored Gov't Wells 2727-2739 ft, td 2975 ft, coring sandy sh, dst 2932-52 ft, 15 min, 1100 ft sw. Mills Bennett's Ira G. Yates 5, 3599 ft sl, 3462 ft wl of sur 560, td 2550 ft, dr, sand 2448-58 ft, 5 dst failed. J. B. Blanchard's Amos Dinn 1, 330 ft nl, 330 ft el sur 462, lcn. Birdwell Oil & Gorman-Yoakum Dr. Co.'s W. K. Hoffman 1, BS&F sur No. 117, ¾ mi e Loma Novia field, td 2816 ft, sand 2800-16 ft, complete 25 bbls in 4 hrs, open tubing. Gilcrease Oil Co. & Tom Graham's M. S. Escobar 1, blk 4, sec 2, 829.5-ac tr, Juan Jose Manuel de la Garza Falcon gr, Buffalo, Texas subd, 2 mi sw Premont area, td 1375 ft, sd for water. Magnolia Pet. Co.'s E. & E. Labbe 1, sec 221, 2/3 mi nw Labbe field, sand 2672-78 ft test, 1400 ft sw in 20 min, dr 2750 ft. Oliver Oil Co.'s M. J. Luby 1, s½ sur 146, lcn. Albert Plummer et al's Herman Danmier 1, ne¼ sec 58, Copeta Garden tracts, addn No. 44, 9 mi s Realitos, td 3175 ft, corrected depth, changing rigs. The Texas Co.'s Duval County Ranch Company 1-C, sur 194, 3½ mi sw Colmena field, td 2312 ft, sand 2120-23 ft, dst rec 1500 ft sw, no pres, 15 min, abnd. Elmer Thomas et al's J. B. Peal 1, 330 ft s and el of sur 794, 1 mi e Lopez field, mim. E. R. Thomas' Lillian Parr (was A. Parr et ux) 2, ne¼ sur 2, dr 4420 ft. Hockley sand 4018-24 ft, oil show, dst show 19 jts oily mud, coring.

EDWARDS COUNTY—Plateau O&G Co.'s Mrs. R. L. Hatch 1, J. W. May sur, sec 66, HE&WT RR sur, td 4175 ft, dr sh, lowered pipe to 4150 ft.

FRIO COUNTY—Amerada Pet. Co.'s Halff & Oppenheimer 7, E. J. Gilman sur, Pearsall, td 5573 ft, set 5 in cas 5237 ft, prep shoot well. Halff & Oppenheimer 8, San Antonio Ditch Company sur No. 1104, Pearsall, Navarro sand with o&g show 4015-78 ft, top Navarro 3130 ft, top lower Navarro 3975 ft, dr 5420 ft in ch. Thornton Davis et al's Halff & Oppenheimer 1, John C. Clare sur 336, 1 mi e Pearsall chalk prod, td 6518 ft, acidized with 4000

gallons, swabbed 63 bbls oil 15 percent water in 20 hours, hole swabbed dry, swabbed 10 hours, no show, abnd.

De WITT COUNTY—D. G. Glaspie et al's M. A. Olson 1, 500 ft ne, 150 ft el 50 ac tr, A. Dillard sur, dr 465 ft.

GOLIAD COUNTY—Felmont Corp.'s W. Hoff 1, 75-ac lease, BS&F sur No. 7, 3000 ft se Maetze field disc well, sand 3438-3465 ft, dst 3419-46 ft, show 780 ft sw 11 min coring 3455 ft. Sun Oil Co.'s Lena Fromme 1, L. A. Maetze sur, 10 mi n Goliad, abnd 5551 ft. R. B. Swiger's Carrie Wood 1, blk 23, Swiger subd, Wood Ranch, George Villa sur, 15 mi s Goliad, 2 mi E. Keystone's Wood 1, still wor.

GONZALES COUNTY—M. S. Holliday et al's T. G. Edwards 1, W. W. Pace 1/3d league, blk "A", Holliday subd, 3 mi sw of Cheapsides, drop from reports until work resumes, td 933 ft. Reedy & Tull's J. F. Boska 1, B. McClure sur, s of Dilworth, drop until work begins, td 2200 ft.

GUADALUPE COUNTY—W. D. Bacon et al's O. D. Halm 1, Joseph Kent sur, 2 mi s Kingsbury, top chalk 1652 ft, wo cas 1714 ft. Louis Crouch et al's Mary E. King 1, 150 ft wl and 150 ft s Guadalupe River, 80-ac lse, J. D. Clements sur, ¼ mi se Zaboroski area, dr 850 ft. Detroit Texas Dev. Co.'s W. T. Carter 1, 300-ac tr, 1 mi sw San Marcos river, 2 mi ne Sullivan, td 2356 ft, set 7 in cas 2065 ft, comp 235 bbls 42 hrs on pump. Long & Ross' Ed Felix 1, 1½ mi s fr New Berlin, 75-ac tr, V. Duran sur, sand 625-26 ft, sand shale 626 ft to 634 ft, oil show, sd 634 ft. Middle Oil Co.'s E. Nolte et al 1, J. Sowell sur, 6 mi e Seguin, td 1800 ft in small cavity, treated with 4000 gals, putting on pump, flowed to crown block after treating.

HAYS COUNTY—R. D. Kelly's W. P. Donalson et al 1, 105-ac tr, J. Vermandi gr, 1½ mi ne San Marcos, top Edwards 718 ft, still sd 721 ft.

HIDALGO COUNTY—Pantano Oil Co.'s (McCollum Exploration Co.) John C. Engleman, Jr. 1-B, lot 3, sec 259, Tex-Mex Ry sur, La Mestina gr, 1½ mi se Pantana gasser, dr 5975 ft; James McDougal 1, lot 223, blk 1, La Blanca tr, 1½ mi s Pantana gasser, coring 6545 ft. H. J. Porter et al's Sweeney Est. 1-A, lot 1, Wayne Wood subd No. 1, 6 mi sw Donna, resume dr 5565 ft. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, porc 46, 4 mi e Samfordyce field, td 1856 ft, installing boiler to dd. Union Sulphur Co.'s ARGL&I Co. 10, blk 50, td 2418 ft, No. Capisallo dist, Mercedes area, td 8306 ft, cutting out tubg at 7535 ft.

JIM WELLS COUNTY—J. I. Francis & L. A. Simonton's A. Lozano Jr. 1, lot 111, sec 76, Holdeman sub, Seeligson ranch, 4000 ft sw Graham's Bennett 1, sd 1200 ft. Gist & Graddy's B. W. Owens 1, Poitevent sur, 3 mi n Bentonville field, still fsh 5308 ft. Tom Graham's William Singer 1, lots 71 and 74, sec 76, Holdeman subd, SK&F sur No. 215, western portion Premont area, td 3400 ft, gas sand 3132-63 ft, oil sand 3163-67 ft, shale 3165-70 ft, sh and sand streaks 3170-83 ft, gun perf 3154-64 ft, comp as gasser, no gauge, cp 1400 lbs, tp 1200 lbs, ⅛ choke.

KARNES COUNTY—De Graffe & Reele's Cochran 1, McConnell League, 5 mi ne Riddleville, still sd 200 ft.

KERR COUNTY—S. W. Forrests' J. W. Bailey 1, A. L. Starky sur No. 408, 3 mi n Ingram, td 432 ft, running cas to btm.

LAVACA COUNTY—Willshire Union Oil Co.'s Albert Pohl 1, 120-ac tr, M. Wooten sur, 7 mi nw of Ezzell, sd 1850 ft.

LA SALLE COUNTY—Kennedy & Johnston's Gilmer & Wildenthal 1, 140-ac tr, sur No. 283, Santonis Carrasco sur 28, 8 mi se Cotulla, dk and sd. W. H. Vernor's M. C. Jefferies, sec 726, HE&WT RR sur, 10 mi se Artesia, still sd 850 ft.

LEE COUNTY — Eleoussa Oil Co.'s Ira Sanders 1, 102-ac tr, J. Von Roeder sur, sd 225 ft. James E. Pederson's C. A. Turner 1, D. Hudson sur, 1½ mi se Tanglewood, td 6560 ft, sd.

LIVE OAK COUNTY—J. H. Durbin's J. D. Marbach 4, 429-ac tr, Stephen Hays sur, 2½ mi sw Whitsett, td 922 ft, pb show little oil, swabbed dry. Hagan & Stewart's S. A. Joint Stock Land Bank 1, J. Turner sur, 5 mi w and n of Three Rivers, td 560 ft, setting cas, had gas blow at 547 ft. Loma Oil Co.'s O. M. Withers 1, Sparks sur, 3 mi n Jacob field, abnd 1010 ft. Martell Pet. & Sterrett's Whitsett Townsite 1, center blk 55 in Juan Houghlingnan sur, between rr and Highway 66, 1700 ft nw Calilham rd, mim. Oil Fuel Supply Co.'s H. J. Rosebrock 1, Louis Romera sur, td 2808 ft, Pettus 2797-2808 ft, dst 14 min, 2800-08 ft, show 106 ft plo, 100 ft dr mud, previous test 2797-2802 ft, test 10 ft mud 180 lbs. pres, 3½ min, set cas, dr plugs. V. G. Schimmell's Geo. West Est. 1, center 160-ac tr in J. Poitevent sur 231, 3½ mi sw Geo. West, mir. Sun Oil Co.'s J. G. James 1, 1258.3 acres, Patrick McGloin sur, ab 28, 1½ mi w Mikeska, sd repairs 4631 ft.

MAVERICK COUNTY—J. W. Boicourt's Edson & Estrada 1, James Eaves sur 68, 12 mi n Eagle Pass, sd 1425 ft in lime, repairing rig. Rio Development Co.'s Winchester Kelso 1, 150 ft wl of 294-acres in sur 2, 3 mi ne of Eagle Pass, td 1003 ft, pulling pipe to ream, will move on rotary rig.

McMULLEN COUNTY—Humble O&R Co.'s H. C. Edrington 2, c½ sec 59, AB&M sur, 6 mi ne Seven Sisters field, 2640 ft w No. 1, dr 2600 ft. Edwin M. Jones, Harry Ezzell 1, 330 ft nl and el 160-ac tr, sec 3, Ezzell Ranch subd, Thomas Adams sur, 5 mi nw Simmons City, set 10 in at 180 ft, dr 225 ft.

MEDINA COUNTY—Joise Oil Co.'s Medina Irrigation Farms 1, lot 1, blk 32, sec 7, Medina Irrigated farms sub, 1½ mi e Devine, dr 1016 ft sh. R. P. Whitfield's W. B. Odem 1, Henry Castro sur No. 177, ne of Taylor field, sd 691 ft. C. Whitting et al's Hondo Nat'l Farm Loan 2, sec 214, Geo. Studer sur, ½ mi ne Hondo, td 1200 ft in Georgetown, reaming. Will A. Wycoff's T. J. Bendele 1, 321.5-ac tr, James Barnhart sur 593, ab 1733, 8 mi s D'Hanis, still sd below 300 ft.

MILAM COUNTY—J. O. Kilgore's S. W. Law et al 1, 606-ac tr, S. Wilhelm sur, 3½ mi Minerva, td 420 ft, sandy sh, tested sw, abnd. W. R. Ritchey's Chas. McDermott 1, J. R. Cockrill sur, 6 mi e Cameron, drop from report until work resumes.

NUECES COUNTY—I. J. Allen & Seaboard Oil Corp.'s J. D. Chapman et al 1, sec 80, Laureless Farm tracts, 17 mi sw Corpus Christi, abnd 7205 ft. R. B. Bryant & H. H. Howell's Antone Kocurek 1, 58-acres of s 113 acres of 172.5-ac tr, J. H. Smith sur 25, 1 mi s Clarkwood, blew out 3125 ft, running wild. Al Buchanan & Blanco Oil Co.'s W. S. Gandy 1, e½ sec 60, George H. Paul subd, dr 3150 ft. Camp Prod. Co.'s C. Phillip Wardner, Tr. (was Chas. E. Stratton) 1, Stratton area, wo fuel. Conroe Dr. Co. & H. M. Reed's J. L. Mayers 1, lot 4, blk F, sec 107, ½ mi s Clara Driscoll field, dr 3056 ft. Lonnie Glasscock's J. B. Hunter 2, sec 591, deep test, Saxet field, sand 6726-29 ft, ran steel line measurement, gas and gasoline sand 6720-41 ft, pb from 6767 ft and set cas at 4493 ft, completing. Hiawatha Oil Co.'s Hutchin-Stillwell 7, lot 34, Sheppard Farm lots, Saxet deep test, dr 6280 ft. Mrs. N. J. Griffith 6, Frank sur No. 416, Saxet, dr 6612 ft. W. L. Hinds' Clara D. Sevier 1-A, sec 60, Paul subd Driscoll ranch, 65 ft se No. 1, 2 mi w Clara Driscoll field, td 6008 ft, perf around 5850 ft, flowing large volume gas and spraying about 50 bbls distillate, ⅛ ch, tp 1950 lbs, cp 2050 lbs, prep install high pressure separator. N. S. Moss et al's R. H. Coleman 1, of 320-ac tr, sec 206, Bishop subd, Palo Alto gr, s of Agua Dulce field, sand 5656-5726 ft, o&g odor, dr 6250 ft. Steve Paul et al's Annie T. Smith 1, blk 27, sec 38, Flour Bluff and Encinal Gardens tr, 3½ mi s Flour Bluff field, drop till work begins. Renwar Oil Co.'s W. F. Willoughby 1, 860-ac tr, sec 4-G, Garret sub, Petronvilla Singer sur, 5 mi se Driscoll, 4133 ft, td 4828 ft, dr. Republic Natural Gas Co.'s Dun 15, blk 38, Sheppard Farm lots, deep test, Saxet field, comp 160 bbls day, td 6326 ft, sand 6309-27 ft, 7 in cas 6317 ft. G. M. Richardson et al's R. S. Carter 1, nw¼ of sec 8, Laureless Farm tr, 8 mi s Corpus Christi and 2 mi se London, dr 6780 ft. Sta Mex O&G Co.'s, Inc.'s Oliver Bird 1, E. R. Oliver sur No. 162, 3 mi w Baldwin field, mir; Cox & Cryer 1, 930 ft el and 330 ft southerly nl, 72-ac tr, Ward & Gallagher sur No. 316 and 166, sd 4000 ft, wo water. Teague & Associates' A. M. Poenisch 1, 660 ft swl, 330 ft sel, lot 2, blk 32, Flour Bluff and Encinal Garden tracts, 3 mi w Flour Bluff field, old well, rig abnd by Huebert et al, mi dk to wash down and run electric formation tester. Texon Dr. Co.'s Clara D. Sevier 2-B, relief well, 880-ac tr, W. W. Chapman Lands, Palo Alta gr, S. Agua Dulce, set 350 ft 16 in cas, still sd; Mable Eliff 1, 3054-ac tr, A. Longria sur, S. Agua Dulce, td 6547 ft, sd. W. A. R. Oil Co.'s W. S. Hutchins 1, sh 2, G. Frank subd, deep test, Saxet, abnd 6454 ft. Wellington Oil Co. & Pan-American Prod. Co.'s Clara Driscoll Sevier 1-A, Wm. Gamble sur, se of Clara Driscoll field, td 6075 ft, set 5 in cas to td, wocs.

REAL COUNTY—Sun Oil Co.'s Dietert & Oppenheimer 1, sec 7, GWT&P RR sur, 20 mi nw Leakey, td 1735 ft, hole caving.

REFUGIO COUNTY—Josey & Bruton's M. F. Lambert 3, blk 50, Swisher sur, 1 mi w Tomoconnor prod, td 5903 ft, sand 5881-5903 ft, comp 20 bbls hr ¼ ch. Paul Meader's Temple Lbr. Co. 1, sec 1, G. W. Maine sur, ab 218 ft, 2 mi sw Austwell, ru and sd. Tidewater Oil Co.'s E. G. Landgrof 1, 220-ac tr, J. Collyer sur, n of Hynes Bay, td 8506 ft, abnd. Windsor Oil Co.'s G. W. Bissett 1, John Crockett sur, 1 mi nw of Tivoli, dk.

SAN PATRICIO COUNTY—Atlantic Ref. Co.'s McCampbell ranch 1-C, lot 9, blk 41, McCampbell sub 4, McCampbell area sand 6532-38 ft, set 7 in on btm at 5544 ft in sandy sh. W. B. Craig's A. E. Nelson 1, s¼ sec 7, first add Taft Farm Lands, 2 mi sw Taft field, sd. Eleanor Oil Co.'s Wm. Kline 1, lot 5, blk "C" Coleman-Fulton Pasture Co. subd, 2½ mi se Gregory, td 6851 ft, pb 6343 ft, running tubg after perf 6297-6305 ft, made sw at unknown

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depth, abnd. W. W. Toland 1, 8000 ft n Kline 1, lot 15, blk "A", Coleman-Fulton Pasture subd, 2½ mi e Gregory, dk and sd. Hooper & Rutherford, Inc.'s J. D. Willis 1, Gregory area, T. T. Williamson sur, e offset to Eleanor's Kline 1, dr 7202 ft, ran electric formation tester to 7190 ft. Texon Royalty Co.'s J. H. Harvey 1, blk 13, Rincon subd, Geo. Sargent sur, ab 231 ft, 4 mi n Gregory, 5135 ft.

STARR COUNTY—Howard Bass' Hayden et al 1, s½ blk 4, sur 7, porc 80, 5½ mi ne Rio Grande City, td 1336 ft, sand 1328-36 ft, 7 in at 1336 ft, bailed sw with slight o&g show, prep dd. Paul Meaders' F. C. Garcia et al 1, 330 ft nel, 330 ft nwl, blk 12, sur 1101, 2 mi n Mirando City, ru. Superior Oil Co.'s Masterson 1, sec 35, dr 1425 ft. Wilcox O&G Corp.'s Puig Bros. 1, sec 9, Loma Blanco Pasture of Joaquin Galan gr, sur 2183, 2500 ft.

WILLIAMSON COUNTY—H. F. Goff's H. W. Kunze 1, 75-ac tr, J. J. Liendo sur, td 1330 ft, drop from reports. L. D. House et al's Mille Stewart 1, 151-ac tr, M. de la Villa sur, 11 mi e Bartlett, drop from reports until work begins. C. R. Richardson's E. Zeischang 1, 200 ft e line, 300 ft nl, 100-ac tr, Hamilton & White sur, lcn dropped.

ZAPATA COUNTY—W. C. Bob's J. M. G. Martinez 2, 450 ft nwl, 150 ft nel, s¼ blk 22, W. R. Duke subd, Randado gr, 1 mi w Charco Redondo field, sd. Gilcrease Oil Co.'s A. Trevino 1, blk 3, sec 3, Bode subd, porc 2 and 3, 7 mi se San Ygnacio, D&A at 3751 ft. The Texas Co.'s Whitehead 94, Cerrito Blanco gr, deep test, Escobas field, abnd 2535 ft. J. D. Long's S. T. Philps 1, 921 ft nel, 200 ft nwl Phelps 200-ac tr, Vella gr, dr 600 ft.

ZAVALLA COUNTY—J. F. Wilcox's T. J. Gillam 1, sw¼ sec 11, blk A, GWT&T Ry. sur, 6 mi ne Batesville, ru and sd.

TEXAS GULF COAST

BRAZORIA COUNTY—Beaty, Bowles & Borsodie's Truska 1, Algoa prospect, H&TB sur No. 6, dr shale 7879 ft.

CHAMBERS COUNTY—Laverne Decker's Johnson 1, ne of Anahuac, T&NO sur, sec 30, spudded. Salt Dome Oil Corp.'s Lawrence 1-A, Cotton Lake area, S. Barrow sur, woc at 6645 ft. Sun's White Estate 2, Seabreeze prospect, T&NO sur, sec 128, woc 8869 ft.

FT. BEND COUNTY—Sam Harrison's Horak 1, Neeville prospect, H&TC sur, sec 36, dr shale and lime 4254 ft.

GRIMES COUNTY—Fred Harris's Chaney 1, 5 mi w of Mesa, M. Donohue sur, dr shale 2915 ft.

HARRIS COUNTY—B. A. Farrell & J. B. Cox's Bender Estate 1, w of Humble field, M. W. Travis sur, ru. Geo. Lawrence's Zapp 1, Bammel prospect, J. Farwell sur, coring shale 6362 ft. Stanolind's J. Warren Minerals 1, Hockley area, H&TB sur No. 1, roads. David B. MacDaniel's Gilbert 1, Gilbert Ranch prospect, J. Ricord sur, dr shale 5978 ft.

JEFFERSON OUNTY—Sun's Hebert Broussard 1, Labelle prospect, W. B. Burton sur, waiting on casing.

MATAGORDA COUNTY — Continental's Robbins 1, Citrus Grove prospect, C. Franz sur, dr shale 2948 ft; same operator's Hawkins 1, Sheppards Mott area, D. McCarthy sur, dr shale 3456 ft. Hammon Exploration Co.'s Croker 1, South Bay City field, E. Hall sur, dr hard sand 8939 ft. Strake's Sargent 1, Poole Ranch area, L. E. Parker sur, fsh 6880 ft. Sun's Craig 2, Hawkinsville area, J. Williams sur, reaming 2236 ft.

MONTGOMERY COUNTY—W. W. Chapman's Foster 1, Willis area, D. Pevehouse sur, dr shale 1608 ft.

POLK COUNTY—J. K. Dorrance's Wings 1, nw corner of county, I&GN sur, abstract 713, setting casing 5170 ft. Peyton Brother's Kirby West B-1, Ace area, J. S. Thomas sur, coring shale 4830 ft.

TRINITY COUNTY—D. E. Boone's R. Tullos 1, nw part of county, W. M. Watson sur, dr sticky shale 792 ft.

TYLER COUNTY — Republic-Houston Oil Company's Hurd Fee 1, se of Spurger field, N. Hurd sur, dr shale 7375 ft.

WALKER COUNTY — A. U. Morrison's Nolte 1, w of Huntsville, Wm. Hodge sur, dr shale 2165 ft.

WASHINGTON COUNTY — Stapper Oil Corp.'s Hoxie 1, S. Sample sur, dr shale 2698 ft. Sun's Lauter 1, Clay Creek area, N. Clay sur, fsh 7507 ft.

Metal Problems

International Nickel Company, 67 Wall Street, New York, recently issued a new booklet describing the solution to many metal problems encountered by the engineer. The booklet includes 20 subdivisions, each devoted to specific problems in fields from hydroelectric and steam power plants to highway maintenance. The booklet is an interesting treatise on alloys.

Batteries

A 24-page booklet on its line of batteries for trucks and buses has just been published by The B. F. Goodrich Company, Akron, Ohio. The volume covers batteries for trucks, buses, tractors, hearses, taxicabs, and fire apparatus.

Four pages are devoted to a description of the new Kathanode construction used in two batteries for light trucks, and seven heavy-duty truck and bus batteries, with complete specifications for these batteries. Construction features of every type of Goodrich batteries is described and pictured, together with complete specifications on the product.

Compressors

Clark Brothers Company, of Olean, New York, has issued a new catalog presenting the company's line of stationary compressors for Diesel engine, gas engine, steam engine and electric drive, portable engine-driven compressors, drilling and pumping engines, and vertical natural gas engines for driving generators. It especially features the company's new "Super 2 Angle" compressor, a new design which places the power cylinders at right angles to the compressor cylinders, in the interest of compactness and reduction in foundation area.

Steam Turbine

Allis-Chalmers Manufacturing Company, Milwaukee, has released another attractive steam turbine bulletin, No. 1181, covering its standard line of high pressure, non-condensing steam turbine units of the three-valve reaction type suitable for top turbine service, or furnishing steam for high pressure process work.

ENGINEER WANTED — Large oil company requires Mechanical Engineer with five or more years' practical production and gasoline plant experience. Must be graduate recognized university. Salary dependent on qualifications. Mail applications in full detail to Box 909, Oil Weekly, Houston, Texas.

Established oil company with London offices would like to negotiate with producing and refining company with view to acting as European agents. Reply Box. No. 313, care The Oil Weekly, Houston, Texas.

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This Week with the Industry's EQUIPMENT SUPPLIERS

Cecil Roush Promoted By Westinghouse Electric

Effective January 1, 1937, Cecil G. Roush will be appointed manager of the Kansas City office of Westinghouse Electric and Manufacturing Company. Roush will assume the duties formerly handled by C. W. Hamilton, who is being transferred to another activity of the Westinghouse company.

A native of West Virginia, Roush attended the University of Oklahoma and graduated in 1923 with a B.S. in electrical engineering. Coming directly to Westinghouse from college, he spent a year on the graduate student course and has remained with the company ever since.

Previous to his promotion as manager, Roush was in the sales division of Westinghouse's Kansas City office.

The Republic Rubber Company Holds Enthusiastic Sales Meet

As a close to a highly successful fiscal year ending October 31, The Republic Rubber Company's sales conference was held on October 27, 28, 29 and 30, attended by all members of the sales organization from coast to coast.

The conference included four days of meetings. Held under the direction of O. S. Dollison, vice president in charge of sales, discussions of various topics led by H. P. Schultz, sales manager; E. M. Ikirt, treasurer; H. W. Croysdale, factory manager; C. H. Zieme, service engineer, and A. Brill, development manager, were productive of a great deal of good.

During the meetings new products were introduced, the sales promotional program for the coming year was discussed, and new applications for mechanical rubber products were gone into thoroughly.

An accompanying group picture of the sales force attending the conference includes, reading from left to right:

Seated: R. M. Gattshall, manager distributor sales; E. M. Ikirt, treasurer; G. L. Smith, assistant sales manager; H. P. Schultz, sales manager; O. S. Dollison, vice president in charge of sales; H. W. Croysdale, vice president and factory manager; A. Brill, development manager; C. H. Zieme, service engineer.

Standing: H. H. Sprinkle; S. R. Colucci; H. E. Stone; J. P. Bird, assistant manager mechanical sales; J. H. Vandawarker; G. J. Wyrough; C. P. Nolte; T. D. Britton; N. B. Norris; M. W. Clark; V. C. Steck; A. A. Schley; A. W. Carriere; H. F. Morneweck, assistant manager mechanical sales; C. B. Cannon; C. R. Conklin; C. W. Stanton; M. C. Meyer; N. M. Grove; J. F. Vogt; C. R. Case.

E. J. Schwartz of the Detroit district office was not present at the time the picture was made.

John T. Brown Made Vice President of Chain Belt

Chain Belt Company, Milwaukee, Wis., has elected John T. Brown, former works manager, a vice president.

Graduating from Yale University in 1925, Brown in that same year became associated with Chain Belt Company in the capacity of graduate student apprentice. He worked his way through numerous positions to become production manager, and then works manager.

Nowery Smith Adds To Plant Facilities

Nowery J. Smith Supply Company, 3610 McKinney Avenue, Houston, has opened a manufacturing division and is now completing erection of a steel plate and structural plant for the fabrication of oil and gas separators, steel derricks and derrick accessories, pumping units and welded tanks. These products will be carried and sold by Nowery J. Smith Supply Company throughout its branch yards in the Gulf Coast fields, being located at Shreveport and New Iberia, Louisiana, and Houston and Corpus Christi, Texas.

J. E. Wilkerson, formerly chief engineer of Emsco plant, will be in charge of plant operations, according to E. J. Broberg, sales engineer, and will employ around 15 skilled employes.

Dowell Constructing Laboratory at Tulsa

Dowell Incorporated has started construction of a research laboratory in Tulsa, to cost approximately $20,000. Research work for the oil and gas industry covering the entire United States will be conducted here. Richard A. Sebastian, representative for the company, made the announcement December 12.

Operation of the laboratory will be under the supervision of Dana G. Hefley, chemical engineer, who is a graduate of the petroleum engineering school of the University of Oklahoma. He will be assisted by A. W. Garst and L. L. Burge, chemists, and a staff of trained research workers.

Timken Makes Changes in Executive Personnel

At a recent meeting of the board of directors of The Timken Roller Bearing Company, action was taken on the following changes in officers and directors:

Resignations were accepted from Frederick J. Griffiths as director of The Timken Roller Bearing Company and president and director of The Timken Steel & Tube Company; and from

The Republic Rubber Company's national sales organization gathered at the Youngstown, Ohio, headquarters of the company to celebrate one successful year, plan for a still better one.

K. B. Bowman as general superintendent of the steel and tube mills of The Timken Roller Bearing Company.

William E. Umstattd was elected president of The Timken Steel & Tube Company which is a wholly-owned subsidiary of The Timken Roller Bearing Company, in addition to continuing his present capacity as president of the parent company.

H. H. Timken, Jr., previously a vice president of The Timken Steel & Tube Company, was made executive vice president of The Timken Steel & Tube Company, in addition to his present capacity as vice president and director of The Timken Roller Bearing Company.

W. Robert Timken was elected director of The Timken Roller Bearing Company and of The Timken Steel & Tube Company to fill the vacancy of the unexpired term.

John E. Fick was appointed general superintendent of the steel and tube mills.

Gustin-Bacon Officials Make Inspection Tour

Officials of Gustin-Bacon Manufacing Company, Kansas City, Mo., accompanied by sales executives of Goodyear Tire & Rubber Company, Akron, Ohio, and of Worthington Pump & Machinery Company, Harrison, N. J., and Owens-Illinois Glass Company, Newark, N. J., were recently in Houston on an inspection tour. The party left Kansas City by special car and made two-day stops at Tulsa, Fort Worth and Houston, where Gustin-Bacon Manufacturing Company operates branch offices. During the stay in Houston, Hugh M. Stone, branch manager for Gustin-Bacon and C. G. Greenlay, branch manager for Goodyear Tire & Rubber Company, acted as hosts.

Gustin-Bacon Party Making Tour of Oil Country

Left to right, seated: Dean K. Chadbourne, vice president, Worthington Pump & Machinery Corporation, Harrison, N. J.; M. Shields, assistant general manager, Gustin-Bacon Manufacturing Company, Kansas City, Mo.,; A. L. Gustin, president, Gustin-Bacon Manufacturing Company, Kansas City; W. C. Winings, manager mechanical sales, Goodyear Tire & Rubber Company, Akron, Ohio; J. F. Stephens, general manager, Gustin-Bacon Manufacturing Company, Kansas City; and G. A. Waddle, assistant sales manager, Goodyear Tire & Rubber Company, Akron. Left to right, standing: Hugh M. Stone, branch manager, Gustin-Bacon Manufacturing Company, Houston; W. L. Rock, insulation department, Gustin-Bacon Manufacturing Company, Kansas City; Virgil Halliburton, development engineer, Gustin-Bacon Manufacturing Company, Kansas City; T. B. Walker, district sales manager, Goodyear Tire & Rubber Company, Dallas; W. H. Gardener, district sales, Goodyear Tire & Rubber Company; Happy Fenton, Tulsa; A. L. Gustin, Jr., vice president, Gustin-Bacon Manufacturing Company, Kansas City; Frank L. Meyers, manager filter division, Owens-Illinois Glass Company, Newark, Ohio, and D. E. Tessendorf, district manager, Worthington Pump and Machinery Corporation, Fort Worth.

Hospitality was dispensed in a big tent in the pipe yard when Taubman Supply Company held open house in celebration of completion of a new office and plant layout at Houston.

Taubman Supply Celebrates Opening of Houston Plant

Taubman Supply Company entertained more than 1000 oil men December 12 in a celebration of the opening of its Houston plant on Clinton Drive at Sixty-Ninth Street.

The central office, near the entrance of the eight-acre tract, contained exhibits of products distributed by the company.

A large tent was pitched in the pipe yard and was filled with visitors from noon until late evening. Guests banqueted on Wyoming elk and other choice meats and foods. A fully equipped bar and a six-piece orchestra were in service.

The Houston plant will serve Gulf Coast, Louisiana, Arkansas, New Mexico and Oklahoma fields, and is expected to handle 70 percent of the goods shipped by Taubman Supply Company.

The yards are fully equipped with conversion machinery, moving cranes, and an excellent machine shop.

Republic Steel Corporation Appoints New Jobber

Byrd Plumber's Supply Company of Cleveland has been appointed jobber of Republic Steel Pipe, according to an announcement by N. J. Clarke, vice president in charge of sales, Republic Steel Corporation.

B-M-W Admore Insert Pump Anchor

Patent No. 2,027,783

No Working Barrels
No Seating Nipples
No Mechanical Shoes
No Pulling of Tubing

Packs off and holds down directly in the tubing itself. Saves on sucker rods and other equipment where fluid level is high and well can be pumped above bottom. Complete data on request.

Principal B-M-W Products are obtainable at supply stores, including: ADMORE Insert Pump Anchors; NEILSON Tools (Safety Sucker Rod Hooks, Tubing Hooks, Rod Elevators, Sucker Rod Sockets, Etc.); BALLS and SEATS (made for every pumping service); ADMORE Liner Barrels; TEX TYPE Plunger Fittings and Valves; and COLLINS Belt Clamps.

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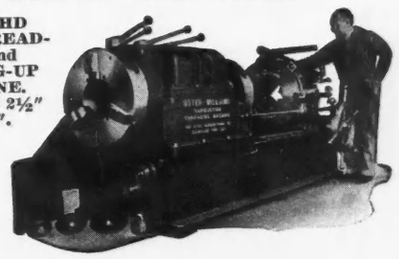

Actually, of course, the drawings were made in our Engineering Department in Cleveland but, before a pencil went on paper OSTER-WILLIAMS engineers traveled for months making sure that they knew all the practical operating conditions which this husky machine must meet and overcome. Send for full details.

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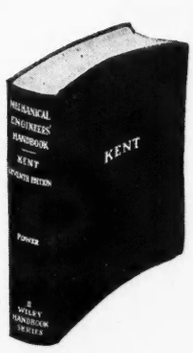

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This remarkable device is appropriately called "the tool of 1000 uses." It is made in 4 sizes — ¾, 1½, 3 and 6 tons capacities.

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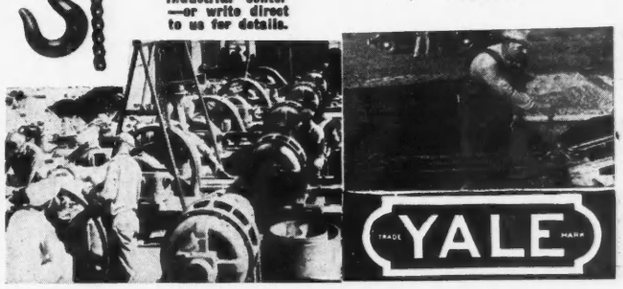

THE YALE & TOWNE MANUFACTURING CO.
PHILADELPHIA DIVISION — PHILADELPHIA, PA.

Squeaks from the Bull Wheel

Geography

Who can tell me just what an island is?

It is a piece of land that went out for a swim.

Guarantee

Student: "What happens, sir, if the parachute fails to open?"

Tough Sarge: "You come back, sonny, and I'll give you another one."

Brothers

She: "The only men I kiss are my brothers."

He: "What lodge do you belong to?"

Match

"That's a queer pair of stockings you have on, Pat—one red and the other green."

"Yes, and I've another pair like it at home."

Putting the Women to Work

Of course I strenuously objected to my wife's going to work again, but she felt that she must have something to do to occupy her time. So at last I consented.

I had a tough time getting mine to hunt another job, too.

No Charity

Mike was "down and out." The pastor of his church, meeting him in the street one day looking very threadbare, took pity on him.

"Come with me, Mike," he said, "and I'll give you a shilling out of the poor box."

But Mike was on his dignity at once. "Indade ye won't!" he exclaimed. "Sooner than accept charity, I'll beg."

Signals!

Why are you taking that whistle with you tonight?

I have a date with a football player.

Bring Your Own

Do they serve women at this bar wer're going to?

No, you have to bring your own.

Experience

"If I'm the first girl you ever kissed, how is it you kiss so well?"

"If I'm the first fellow you ever kissed, how do you know I kiss well?"

Tight Is Right

Say, where'd you get the dough?

From Bill.

Why, I though he was pretty tight.

He was.

One for the Book, Men

"Before we were married," the better half said, "you always engaged a taxi when you took me anywhere. Now you seem to think the bus or trolley is good enough."

"No, my pet!" he replied, "I don't think the bus or trolley is good enough for you! It's because I'm so proud of you. In a taxi you would be seen by nobody save the driver, while I can show you off to so many people by taking you in the street car or bus!"

Both Returned

"I don't like to mention it but that check you gave me has come back."

"Well, that sure is funny, Doc, so did my lumbago."

Proves It

"Going around with women a lot keeps you young."

"How come?"

"I started in going around with them four years ago when I was a freshman, and I'm still a freshman."

Fascination

"First it was love. He fascinated me—and I kissed him."

"Yeah, I know, and then he began to unfascinate you—and you slapped him."

Leader Behind

Leader: "I was kissing our girl soloist last night to beat the band."

"You didn't beat the band. They've been kissing her for weeks."

Wants to Know

"Johnny, I'm surprised! Do you know any more jokes like that?"

"Yes, teacher."

"Well, stay after school."

No Trouble

"It's being rumored around that you and your husband are not getting along very well together."

"Nonsense. We did have some words and I shot him, but that's as far as it ever went."

Merry Christmas, Son

Dear Son:

I do hope you will come home for the Christmas holidays. Mother and I have arranged everything so that we will be ready to receive you. All the cars are going to be overhauled and painted during the vacation so that you will not be able to wreck them. All my champagne, beer, wine, and gin will be locked in a steel vault which I had installed in my cellar. Your brother's bank has been emptied and the money deposited in the bank where you cannot get it. My ties, shirts, socks, gloves, tux, etc., have been placed in a strong trunk, for which I have the only key. My cigars and cigarettes will not be available as I am also locking them in a humidor. I hope you will come to see us. I know that I shall enjoy your visit very much.

Love,

Dad.

P. S.—I also fired the maid.

Surprise

The doctor's wife answered the ring.

"You wish to see the doctor?" she said. "Couldn't you come tomorrow morning?"

"Why, isn't the doctor in?"

"Oh, yes, he's in," said the young wife, "but you're his first patient and I'd like you to come as a surprise for him tomorrow. It's his birthday."

Diplomacy

Two sailors were talking together in a lunch-room.

"I can't understand, Tom," said one, "why you insist on callin' your girl Agnes by the name of Polly. You even introduced her to me at the dance as Polly."

"Well, you see," replied Tom, "I've got to make out it's my pet name for her. She's bound to see 'I love Polly' tattooed on my arm some time or other."

Compliments
OF THE SEASON
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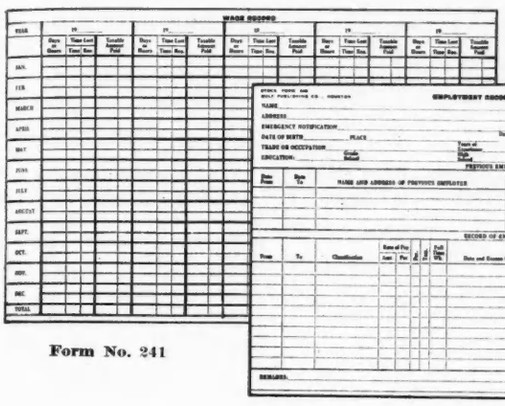
The Producers Supply & Tool Co.
Oil & Gas Well Supplies

TAX LIABILITY FOR OLD AGE RETIREMENT BENEFITS . . . BEGIN JANUARY 1, 1937

Before January 1, 1937, all employers should notify employees that 1 per cent of wages and salaries will be deducted for Old Age Benefits.

A written statement of the amount of tax deductions must be furnished employee each time wages are paid. Employers will find it necessary to maintain records which provide information on each employee's earning and tax contribution, and to make an accounting to the government of the tax collected from each employee.



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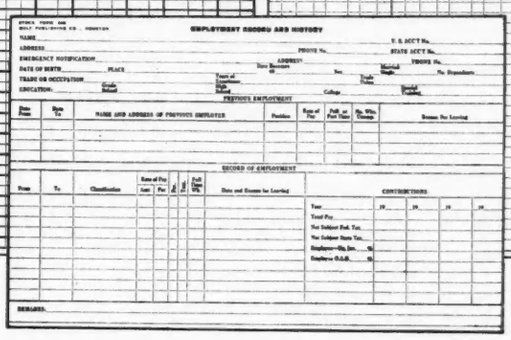

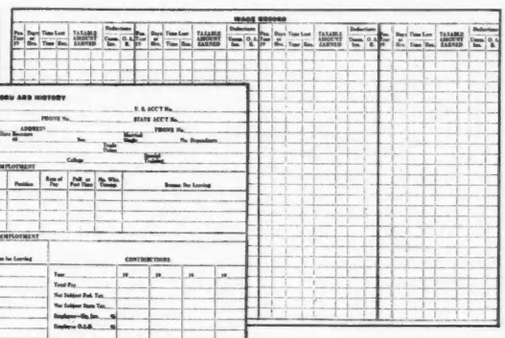

Form No. 240

Front of Form Nos. 240 and 241

The Gulf Publishing Company have included in their stock of forms for Oil Company operation, payroll forms which will give the necessary information in furnishing these reports. We will be pleased to send samples of these forms at your request.

Form No. 240—Employment record card with history and weekly wage record.

Form No. 241—Employment record card with history and semi-monthly wage record.
(Size 5x8 inches printed on white index bristol)

Form No. 242—Individual time sheet.
(Size 11x8½ inches, padded 100 sheets to pad)

Form No. 243—Individual semi-monthly time sheet.
(Size 11x8½ inches, padded 100 sheets to pad)

Form No. 244—Payroll summary with tax deductions.
(Size 11x8½ inches, padded 100 sheets to pad)

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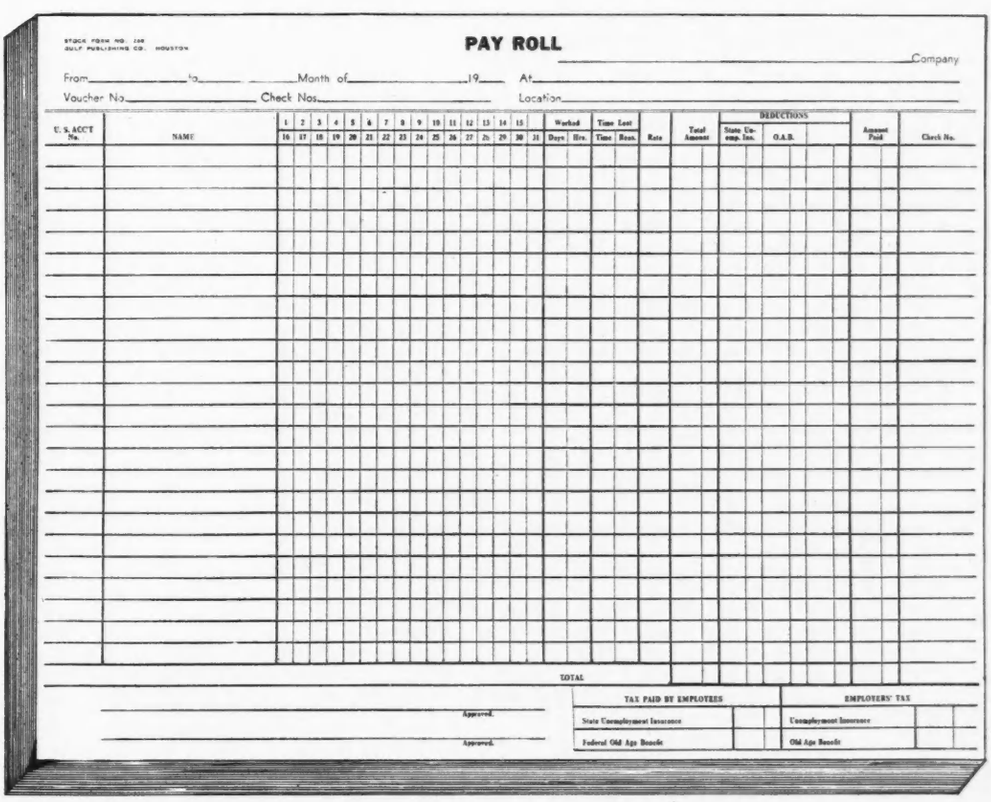

Form No. 244, Reduced, Actual Size 11 x 8½ Inches

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L. H. Gilmer Co.	69
Globe Oil Tools Co.	—
Goodall Rubber Co. of Texas	—
Goodall Semi-Metallic Hose & Manufacturing Co.	—
B. F. Goodrich Rubber Co.	—
Goodyear Tire & Rubber Co.	—
H. P. Gott Manufacturing Co.	—
Gray-Kerotest	—
Gray Tool Co.	53
Green Head Bit & Supply Co.	—
Greene Tweed & Co.	—
The Guiberson Corp.	—
Gulf Coast Machine & Supply Co.	—
Gulf Envelope Co.	—
Gulf Publishing Company	62 and 97
Gulf States Utilities	80
Gustin-Bacon Co.	—

H

W. F. Hall	—
Halliburton Oil Well Cementing Co.	—
Hardway & Cathey	92
Harrisburg Steel Corp.	82
Harnischfeger Sales Corp.	—
Haynes Stellite Co.	—
Hazard Wire Rope Co.	—
C. M. Heeter Sons & Co.	—
Hercules Tool Co.	—
Hewitt Rubber Corp.	—
Highway Trailer Co.	—
Hinderliter Tool Co.	—
Hoard Exploration Co.	92
Hooks Exploration Co.	—
Hopper Machine Works	—
The Chas. N. Hough Manufacturing Co.	—
Houston Oil Field Material Co.	—
Houston Ready-Cut House Co.	—
Hughes Tool Co.	Fourth Cover
Humble Oil & Refining Co.	—
Hyatt Roller Bearing Co.	—
Hydril Co.	—

I

Inferno Co.	88
Ingersoll-Rand Co.	—
International Derrick & Equipment Co.	—
International Geophysics, Inc.	—
International Harvester Co.	—
The International Nickel Co.	—
International Supply Co.	—

J

Byron Jackson Co.	—
Jarecki Manufacturing Co.	38-39
Jensen Brothers Manufacturing Co.	—
Johns-Manville	—
S. M. Jones Co.	—
Jones & Laughlin Steel Corp.	—
J. & S. Carburetor Co.	—

K

Kerotest Manufacturing Co.	—
Kibele Manufacturing Co.	—

L

Lamb Piston Sales Co.	—
Landis Machine Co.	—
Larkin Packer Co.	Second Cover
The Lane-Wells Co.	—
The Layne & Bowler Co.	51
A. Leschen & Sons Rope Co.	—
M. J. Lewis Oil Well Service	—
The Lincoln Electric Co.	—
Link Belt Co.	—
Lone Star Cement Corp.	43
Lucey Boiler & Manufacturing Corp.	—
Neal Lucey Co.	92
Ludlow Valve Manufacturing Co.	—
Lufkin Foundry & Machine Co.	41

M

MacClatchie Manufacturing Co.	—
Maintenance Engineering Corp.	91
D. S. Mair Machinery Corp.	—
Martin-Decker Corp.	—
Maloney Tank Manufacturing Co.	—
McIntosh & Seymour Corp.	—
J. H. McEvoy & Co.	—
Merchants Photo Service	—
Merco Nordstrom Valve Co.	First Cover
Miller Sand Pump Co.	—
Mission Manufacturing Co.	—
Lee C. Moore & Co.	—
Muskogee Iron Works	—

N

National Bank of Tulsa	—
National Exploration Co.	—
The National Supply Co.	15
National Tube Co.	—
Naylor Pipe Co.	—
New Deal Specialty Co.	—
Norma-Hoffmann Bearings Corp.	—
Norvell-Wilder Supply Co.	—

O

Walter O'Bannon Co.	—
O.C.S. Manufacturing Co.	—
Oil Center Tool Co.	33
Oil City Brass Works	—
Oil Well Supply Co.	—
Oil-World Exposition, Inc.	—
Oklahoma Biltmore Hotel	—
Oklahoma Portland Cement Co.	—
The Oster Manufacturing Co.	95
Otis Pressure Control	—

P

The Parkersburg Rig & Reel Co.	19
Patterson-Ballagh Corp.	77
Pelican Well Tool & Supply Co.	—
Petroleum Electric Power Club	75
Petroleum Rectifying Co.	—
Petty Geophysical Engineering Co.	—
The Pierce Governor Co.	—
Pittsburgh Equitable Meter Co.	First Cover
Pittsburgh Steel Co.	65
Portable Rig Co.	—
Producers Supply & Tool Co.	96

R

Rector Well Equipment Co.	—
Reed Roller Bit Co.	35
Joseph Reid Gas Engine Co.	—
The Republic Rubber Co.	—
Republic Steel Corp.	13
Rieber Laboratories	—
The Ridge Tool Co.	—
Rio Pipe & Supply Co.	—
Walter Ruska & Co.	—

S

San Jacinto Inn	92
J. A. Schley	92
Schlumberger Well Surveying Corp.	—
Security Engineering Co.	—
Seismic Explorations, Inc.	—
Shaffer Tool Works	—
Shell	—
Sinclair Refining Co.	—
SKF Industries, Inc.	—
A. O. Smith Corp.	—
E. M. Smith Co.	—
South Chester Tube Co.	—
South Texas Geophysical Corp.	92
Southern Engine & Pump Co.	—
Southern Pacific Lines	—
Spang & Co.	—
Spang, Chalfant & Co.	—
Sperry-Sun Well Surveying Co.	—
Stanley Tools	—
Star Drilling Machine Co.	89
A. J. Stephens & Co.	—
Stevens Hotel	—
The Sullivan Co.	—

T

Texas Electric Steel Castings Co.	73
Texas Iron Works	55
Texas Rubber Specialty Corp.	—
Texas Steel Co.	—
Thermoid Rubber Co.	—
The Timken Roller Bearing Co.	—
Tips Engine Works	—
Titusville Iron Works Co.	—
Edgar Tobin Aerial Surveys	—
Tretolite Co.	—
Trimont Manufacturing Co.	54
Trinity Portland Cement Co.	—
Tulsa Chamber of Commerce	—
Twin Disc Clutch Co.	—
Twin-Seat Valve Co.	—

U

Union Carbide & Carbon Corp.	—
Union Wire Rope Co.	31
United States Rubber Products, Inc.	—
United States Steel Corp.	—
Universal Atlas Cement Co.	—

V

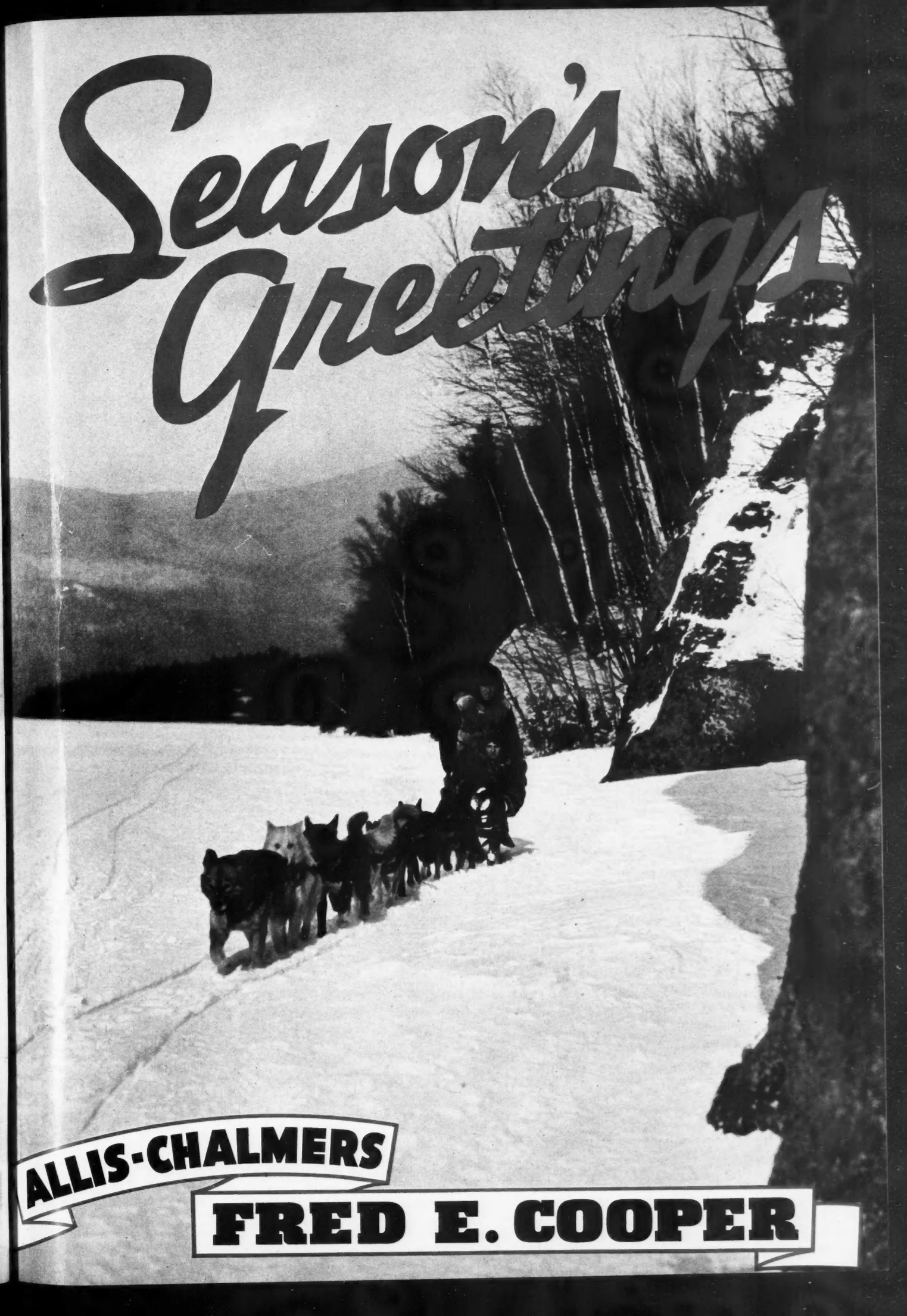
Volcano Burner Co.	—

W

The Watson-Stillman Co.	—
Waukesha Motor Co.	—
Western Electric Service	92
Westinghouse Electric & Mfg. Co.	—
The Wheland Co.	—
Wickwire-Spencer Steel Co.	—
J. H. Williams & Co.	—
Williamsport Wire Rope Co.	—
Wilson-Snyder Manufacturing Co.	—
Wilson Manufacturing Co.	—
Wilson Supply Company	67
WKM Co.	—
Worthington Pump & Machinery Corp.	—

Y

Yale & Towne Manufacturing Co.	95
Youngstown Sheet & Tube Co.	6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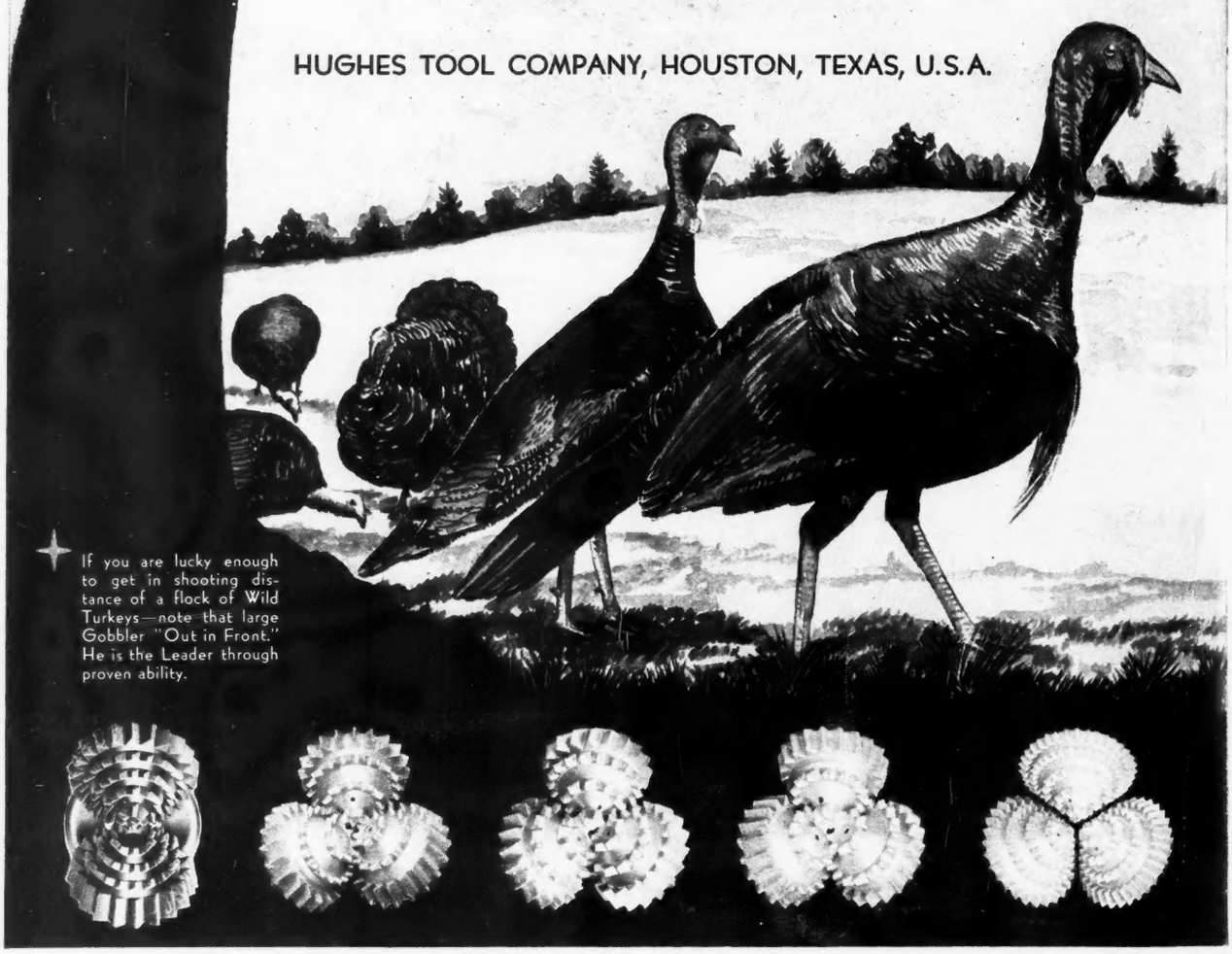

If you are lucky enough to get in shooting distance of a flock of Wild Turkeys—note that large Gobbler "Out in Front." He is the Leader through proven ability.